



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

BETTER NATURE : the designed landscape of Battleby : Artist Residency

Citation for published version:

Inglis, M, *BETTER NATURE : the designed landscape of Battleby : Artist Residency: TREE CHURCH PUBLIC ART INSTALLATION*, 2014, Exhibition, Creative Scotland.
<<https://bootlaceandlightning.wordpress.com/>>

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Publisher Rights Statement:

© Inglis, M. (Artist). (2014). BETTER NATURE : the designed landscape of Battleby : Artist Residency: TREE CHURCH PUBLIC ART INSTALLATION. Creative Scotland.

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



The Nature of Scotland

**Marine
Protected Areas**
Supporting Scotland's seas

**Scotland's
peatlands**
Working for our future

Whiskered bats
Threave's stunning night-life



Contents



→ 4



→ 44



→ 10



→ 56



→ 16



→ 60



→ 26

Regulars

- 2 Where we are**
SNH contact details
- 3 Welcome**
- 4 Wild calendar**
Where to go and what to see
this autumn and winter
- 20 Dualchas coitcheann
/Common heritage**
Linking language and environment
- 22 News**
- 36 Reserve focus**
Discover Loch Fleet NNR
- 48 Area news**
Reports from around the country

Features

- 10 Marine Protected Areas**
Support for our seas
- 16 Could the eagle have landed?**
Golden eagles in the south of
Scotland
- 26 Artistic reflections**
How artists in residence
approached Year of Natural
Scotland
- 32 Picture perfect**
The Scottish Nature Photography
Festival
- 34 The first of its kind**
The new Scottish Code for
Conservation Translocations
- 40 Scotland's nature champions**
The work of the Scottish
Countryside Rangers Association
- 44 Scotland's peatlands**
Working for our future
- 55 Hebridean trail**
Scotland's first Birds of Prey trail
- 56 Blue carbon**
Our planet's thermostat
- 60 Whiskers galore**
Tagging whiskered bats at Threave



Scotland's nature blog

Our Scotland's nature blog covers a wide range of subjects, and recent posts have featured fungi forays, autumn birds on Noss and how *Octonauts* inspired our virtual dives. Follow the blog using the link at the foot of the homepage of our website.

Credits

The Nature of Scotland
The Magazine of Scottish Natural Heritage
Issue Number 20 — Autumn / Winter 2014

Published twice per year
© SNH 2014
ISSN 1350 309X

Editor: Jim Jeffrey
Tel. 01738 458528

Cover photo: A rocky reef with sponges, anemones and dead man's fingers below a canopy of kelp.
Photographer: Paul Kay/www.marinewildlife.co.uk

Inside cover photo: A rocky reef festooned with bright orange dead man's fingers, red seaweeds and hydroids.
Inside cover photographer: Paul Kay/www.marinewildlife.co.uk

Welcome page photographer: Becky Duncan/SNH

Photography – all images by Lorne Gill/SNH other than Niall Benvie p5, Laurie Campbell p6 image 2 in strip, p16, p45, p46, David Whitaker p6 image 4 in strip, p15, p17, p18, p19, p37, Erland Haarberg-naturepl.com p9 main image, Chris Gomersall/2020VISION p9 image 1 in strip, Keith Ringland p9 image 2 in strip, Danny Green p9 image 3 in strip, Ben James p10, Lisa Kamphausen p12, Paul Naylor p13, Paul Key p14, Nevis Landscape partnership p22, Rob Burns p23, Tom Finnie/SNH p25, Arran in Focus p28, Ewen Weatherspoon p30, Rachel Mimiec p31, Mark Hamblin p35 centre, A Coombes/EpicScotland/SNH p40, Patricia & Angus Macdonald/SNH p46 bottom, Lorne Gill/2020VISION p47, James Carter p48 left, Donna Yule p48 right, Bex Outram p49 centre, Sarah Eaton p49 right, SNH/Bruizer p50 right, Julie Nock (SUP) p51 right, Mike Ingram p52 centre, Rory Richardson p52 right, Ewen Cameron p53 left and centre, Ian Bancroft p53 right, Fiona Fisher p54 left, Sarah Brown p54 centre, North Lanarkshire Council p54 right, Sue Scott p56, P58, Heriot-Watt University p57, Mike Bollam p60, p62, Neil Middleton p63.

To share your views about *The Nature of Scotland* or suggest articles for future issues please contact the editor:

SNH Magazine
Battleby, Redgorton,
Perth PH1 3EW
Email: editor@snh.gov.uk

The views expressed in this magazine do not necessarily reflect those of SNH.

Printed by: J Thomson Colour Printers, Glasgow
JTCP15.5k1014

When you've finished with this magazine, please recycle it. Pass it to another reader or dispose of it at your local waste-collection point.



Where we are...

You can contact SNH by letter, telephone or email. The following details should enable you to find your nearest main office, but bear in mind that we also have a number of offices smaller than those listed.

A full list of our offices appears on the SNH website: www.snh.gov.uk

Corporate headquarters

Great Glen House,
Leachkin Road,
Inverness IV3 8NW
Tel. 01463 725 000
Email: enquiries@snh.gov.uk

Other offices

Battleby, Redgorton,
Perth PH1 3EW
Tel. 01738 444 177

Silvan House,
3rd Floor East,
231 Corstorphine Road,
Edinburgh EH12 7AT
Tel. 0131 316 2600

Caspian House,
Mariner Court,
Clydebank Business Park,
Clydebank G81 2NR
Tel. 0141 951 4488

Area offices

Argyll & Outer Hebrides
32 Francis Street,
Stornoway,
Isle of Lewis HS1 2ND
Tel. 01851 705 258

Forth
Silvan House,
3rd Floor East,
231 Corstorphine Road,
Edinburgh EH12 7AT
Tel. 0131 316 2600

Forth
The Beta Centre,
Innovation Park,
University of Stirling,
Stirling FK9 4NF
Tel. 01786 450 362

Northern Isles & North Highland
The Links,
Golspie Business Park,
Golspie,
Sutherland KW10 6UB
Tel. 01408 634 063

Northern Isles & North Highland
Ground Floor,
Stewart Building,
Alexandra Wharf,
Lerwick,
Shetland ZE1 0LL
Tel. 01595 693 345

South Highland
Fodderty Way,
Dingwall Business Park,
Dingwall IV15 9XB
Tel. 01349 865 333

South Highland
Torlundy,
Fort William PH33 6SW
Tel. 01397 704716

Southern Scotland
Greystone Park,
55/57 Moffat Road,
Dumfries DG1 1NP
Tel. 01387 272 440

Strathclyde & Ayrshire
Caspian House,
Mariner Court,
Clydebank Business Park,
Clydebank G81 2NR
Tel. 0141 951 4488

Tayside & Grampian
Battleby, Redgorton,
Perth PH1 3EW
Tel. 01738 444 177

Tayside & Grampian
Inverdee House,
Baxter Street,
Torry,
Aberdeen AB11 9QA
Tel. 01224 266 500

Welcome



Andrew Bachell
Director of Operations
Scottish Natural Heritage

Welcome to the autumn edition of *The Nature of Scotland* in which we highlight topics as diverse as marine protection and how artists help to reveal links between people and nature. Scotland lies at the edge of a great continent and a vast ocean and plays host to an internationally important range of resident and migratory species, of natural places and habitats. If there is a single theme that links these things and all the articles in the magazine it is that this diversity is part of our wealth, it is the 'natural capital' from which we can all benefit.

During the Homecoming programme, part of the international focus on Scotland in 2014, we sought to promote Scotland's role at a European and global level. We celebrated John Muir, a native of Dunbar who became the founding father of the US National Parks. He believed passionately in the wider values of nature to people and the benefits to be had from 'going out' and enjoying it. We often recognise the economic benefits of the natural environment, for example through tourism, but increasingly we are linking the outdoors directly to health and well-being. This includes disease prevention and cure, from treatments for diabetes, heart disease and depression to helping maintain vitamin D levels. The evidence that getting out makes us healthier and happier is clear, as is the belief that we are more likely to go out when the places to visit are attractive, interesting, accessible and safe.

Nature and 'green health' sit alongside the Walking Strategy for Scotland and even the Scottish Biodiversity Strategy. Active travel, recreational use of cycling and walking routes, outdoor learning and play, bird-watching and volunteering are all ways in which we can benefit from the 'Natural Health Service' around us. SNH is working to deliver health and well-being through our place-making and participation agendas and our role as part of the Green Exercise Partnership.

In Scotland we have many practical examples of developing urban greenspace, long distance routes, path networks, parks and nature reserves and a growing awareness of the role they play in providing physical and mental refreshment. It isn't just a theory, important health benefits are being delivered through the outdoors. Through the Europarc Federation, SNH is working with representatives from other countries to demonstrate these benefits. Bridget Finton of SNH and colleagues from our Finnish counterpart, Metsähallitus, were invited to the International Union for Conservation of Nature's World Parks Congress in Sydney this November to discuss the theme of Improving Health & Well-being.

Enjoying nature is good for us and our health. It doesn't matter if it is close to home, looking at familiar things, or farther away, or witnessing the seasonal spectacle as some of our international visitors come and go, like the whooper swans and geese that are arriving for winter. In the months ahead SNH will be working with the Scottish Government to identify the best devolution arrangements for the benefit of Scotland's natural heritage and the people who enjoy and rely upon it. Our priority, working with other people and organisations, is to bring these benefits to as many people as possible – a shared resource in every way.

Andrew Bachell

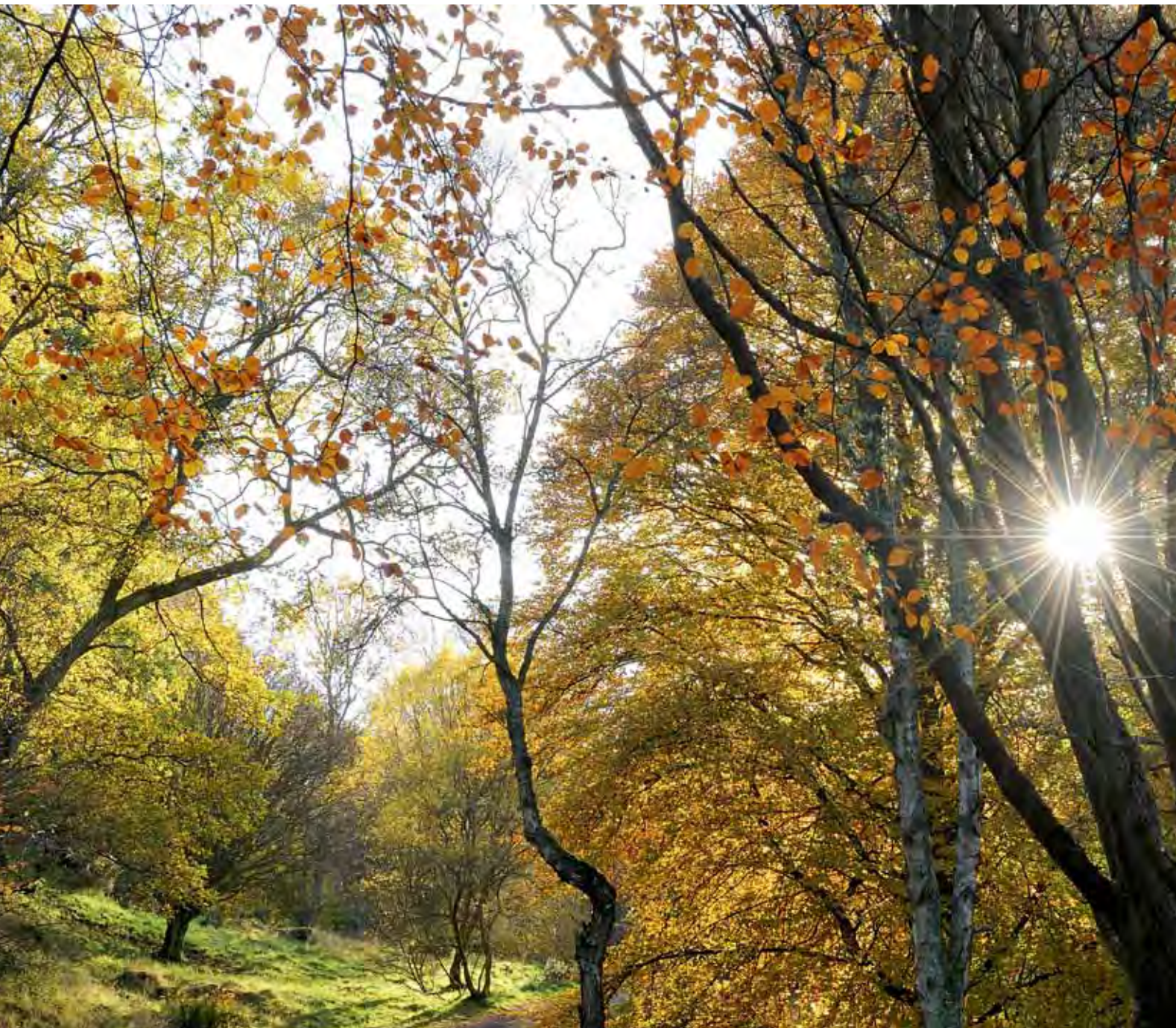


Wild calendar



Kenny Taylor gives some seasonal tips for savouring Scottish wildlife and landscapes

Some days can be so still now that their silence seems to amplify both colours and sounds, from the deep tones of trees to the calls of thrushes along a shadowed glen – there, then gone. Others rage in whirls of gale-blown leaves or salt-spray, grounding flocks below the storm. But the overall sense of nature can be mellow, as brambles and apples ripen and fall and the land seems to glow in the fading year.



Fungi in the post

Many of autumn's keynote colours are reds, browns and yellows. So it's natural to make a mental leap from those to Scotland's ginger ninja – the red squirrel – and to the tones of fungi that grow in woods where it still thrives, despite widespread declines.

Jump one more branch in our mind, and the connections to a particular writer, loved by millions for more than a century, become inescapable. Beatrix Potter, who both imagined and painted characters such as Squirrel Nutkin and Peter Rabbit, was an accomplished watercolour artist.

She was also a perceptive naturalist, with a passion for making scientifically accurate illustrations of fungi. Beatrix was helped in this work by Charles McIntosh, a postman-naturalist from Inver, by Dunkeld. He sent her samples of fungi he found in rural Perthshire and she sent him paintings of them in return.

The quality of those paintings is still valued by 'mycologists', as people who study fungi are known. And some say that Mr McGregor – the rabbit-chasing gardener in 'The Tale of Peter Rabbit' – bears more than a passing resemblance to the whisky Charles McIntosh.

Web tip www.morning-earth.org/ARTISTNATURALISTS/AN_Potter.html

www.snh.gov.uk

Ashes to riches

Think of good places to watch wildlife and you might picture somewhere that seems to have little human influence on it. Yet from mountains to moors to woods and shores, such places, in reality, are few indeed.

A follow-on is that plenty of places with more obvious human imprints are excellent for wildlife. The lagoons at Musselburgh, near the mouth of the River Esk, are a classic case in point. Now on the newly established John Muir Way, these are on land 'reclaimed' behind a concrete seawall in the 1960s for disposal of ash from Cockenzie Power Station. Some are still in industrial use, but the decommissioned ones are excellent for waders, gulls and ducks.

'Lagoon Number 8', and shallow freshwater pools specially created to boost biodiversity, have national importance for birds. With hides and good vantages, the Musselburgh lagoons are now one of the most visited birdwatching spots in eastern Scotland. In autumn, look for waders such as golden and grey plovers, flocks of wigeon and teal, and large numbers of moulting great crested grebes.

Web tip www.visiteastlothian.org/assets/pdfs/WalksAround-Musselburgh.pdf

The allure of anthocyanins

Part of the excitement of autumn is its unpredictability. Not just in shifts from sunshine to downpour, fog to gale; these can feature in Scottish weather at any season. Autumn has its signature moves, from green to golden, scarlet to bronze or brown. It's the uncertainty of when, where and how trees will change colours that makes autumn so alluring.

Certain conditions boost autumnal displays. Dry, sunny days, with nights that are cold but not freezing, are ideal. That's because sunshine allows leaves to use up their final reserves of chlorophyll – the green compound that is key to solar-powered food production by plants.

In turn, this increases the sugar content of leaves and fruits, allowing another class of chemicals – anthocyanins – to form and be revealed. These are what make ripe apples red, 'black' grapes purple and leaves blush.

If a big freeze kicks-in too early, leaves fall without much of a flourish. Cloudy, wet weather dampens the anthocyanin content and will dull the tones. So here's (as ever) to some sunshine, but at this season, both in the sky and in the trees.

Web tip <http://scifun.chem.wisc.edu/chemweek/fallcolr/fallcolr.html>



A cap for all seasons

The blackcap is a bird of several surprises. First of all, the name of this medium-sized warbler is male-biased. Females have a gloriously chestnut cap to crown the pale grey plumage shared by both sexes.

Next, you'd expect a warbler to quit Scotland in autumn and winter and seek warm climes far to the south. For Scottish blackcaps, that's both true – and false. The ones that breed here are thought to be wholly migratory, leaving from August through September to fly to places such as Spain, Portugal and North Africa.

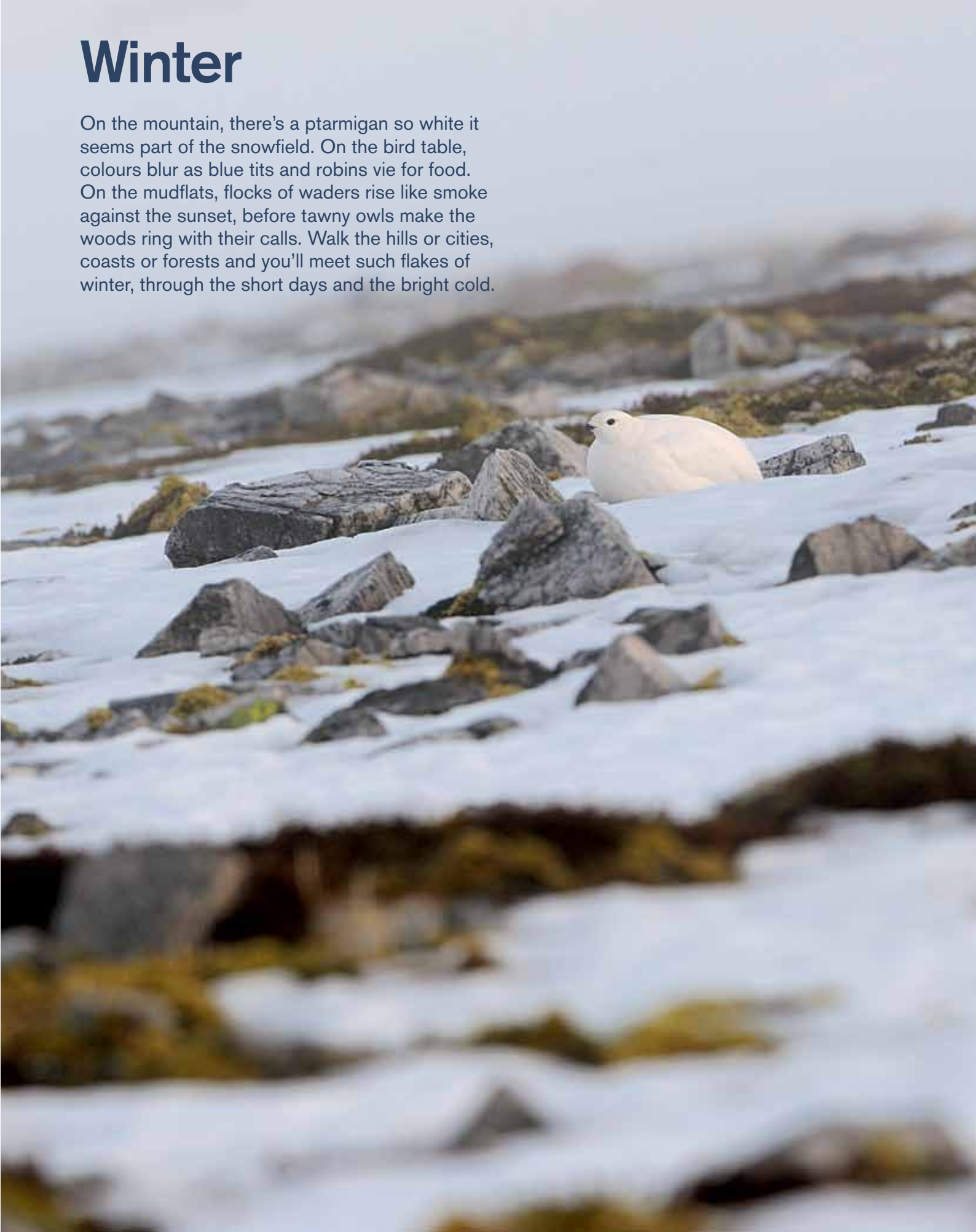
Yet, as these breeders leave, migrant blackcaps arrive. Many don't dally for long before moving south. But a few stay through autumn and winter. Numbers of these over-wintering blackcaps are modest – perhaps only a few hundred birds. But because blackcaps like to feed in gardens, where they can eat ivy berries and visit bird feeders, they can sometimes be easy to spot.

Come spring, there will be another change of the black-and-brown-capped guard when breeders return and males begin to sing. For now, stay alert for those wintering (and fairly silent) warblers.

Web tip www.bto.org/sites/default/files/u23/downloads/pdfs/factsheet_blaca.pdf

Winter

On the mountain, there's a ptarmigan so white it seems part of the snowfield. On the bird table, colours blur as blue tits and robins vie for food. On the mudflats, flocks of waders rise like smoke against the sunset, before tawny owls make the woods ring with their calls. Walk the hills or cities, coasts or forests and you'll meet such flakes of winter, through the short days and the bright cold.



Some other things to look for in autumn:

Sounds of rutting red deer; Rooks, crows, jackdaws and starlings flying to evening roosts; Early frost on grasses and bushes; Redwings and fieldfares, fresh in from the east.





Cling on, then let go No tangle unturned Bewitched by birches

There's much more to limpets than meets the eye. With their conical, ridged shells and tenacious hold on inter-tidal rocks, limpets are very recognizable when high and dry. Add seawater, twice a day at high tides for limpets on the upper shore, and it's a different story: one that plunges into the unknown for most people.

Submerged, limpets are more able to roam their home rocks, sliding along mucus trails and grazing algae as they go. In autumn and winter, they also reproduce beneath the waves, and limpet sex holds some surprises. Common limpets begin life as males and mature when about nine months old. They stay this way for a couple of years or so before most become female.

Spawning happens once a year, possibly stimulated by rough seas and onshore winds. Eggs are released and fertilised in the water, after which larvae settle in rock pools or other damp coastal spots. Perhaps because of choppy waters here, Scottish limpets spawn slightly earlier in autumn than those farther south.

So many Scottish limpet larvae will already be settled on the shore by early winter. Those that survive could live for up to 20 years, starting as males, then spending most of their lives as females, of course.

Web tip www.arkive.org/common-limpet/patella-vulgata/

It's a grey day along a grey coast by a grey sea. But there, where waves meet land along a dark line of seaweed, are some flickers of movement. Medium-sized birds, boldly marked in brown, black and white, are busy among the weed tangles.

Their calls are in keeping with the location – more akin to pebbles rattling on pebbles than the voices of birds. Turnstones: the colours, calls and behaviour reveal their identity. And many Scottish shores in winter, especially along the east coast, Orkney and the Uists, are enlivened by their presence.

Named for their habit of levering small stones to seek food such as sandhoppers, ruddy turnstones (their full name, not an insult) are equally adept at rummaging beached seaweed to find food. They often do this so close to the sea's edge that they need to flutter up, repeatedly, to avoid a soaking.

Turnstones don't breed in Scotland. Amazingly, the ones that winter here usually nest in Greenland and north-east Canada. So savour those long-distance rummagers while you can.

Web tip www.rspb.org.uk/wildlife/birdguide/name/t/turnstone/

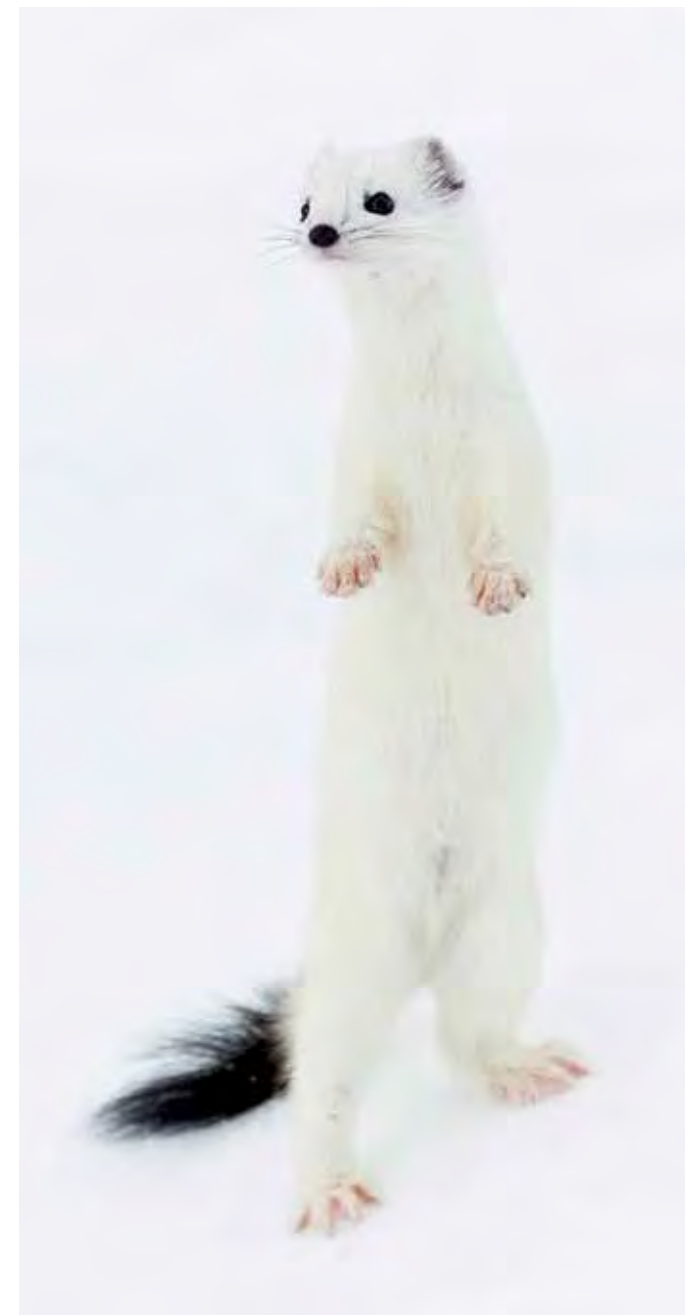
Birch trees are a boon at any time of year. It's not only their colours that add richness to many landscapes, whether in fresh green spring growth, the yellows of autumn or the purple hues of winter stems. It's also in the patterns of trunks, branches and twigs.

Give a birch tree space, whether the tree is of the silver, downy or dwarf kind, and it will throw shapes that make it an individual. Downy is big on stem knobbles and anarchic branch designs. Silver is more statuesque; dwarf ground-hugging and great for tiny leaf details.

Winter allows appreciation of the finer points of birch patterns, both up-close and seen as tracteries of stems. For some, you might also notice dense clusters of twigs near the ends of branches, forming dark balls. These can look a bit like squirrel dreys.

Known as 'witch's broom', such a twig ball forms when a type of *Taphrina* fungus infects the growing tips of birch stems, stimulating rampant growth of short shoots. The result – yet more pattern to add to birch's impressive array.

Web tip <http://treesforlife.org.uk/forest/species-profiles/birch/>



Stoatally hypnotic

Jump, dash, turn on your back. Rear up and crouch down. Then jump again with an arched back, making the moves almost rhythmical in sequence. Now repeat, moving nearer the dark-eyed creature you've been watching.

If that sounds uncomfortably close to some dodgy dance moves down the local club or hall, just be thankful you're not watching them as a rabbit. For if you were, you might already be mesmerized: so entranced by the little fur-coated dancer you'd feel glued to the spot.

And if the stoat gets even closer, it's curtains. A bite on the neck and predator can grab prey, killing a rabbit many times its size. Such 'dancing' by stoats is rare to see, since both killer and possible victims can be spooked by obvious human presence. We also lack the moves.

But knowledge of such bewilderment can add spice to a walk. For you might – just might – glimpse a stoat, furred in the white of its winter ermine, dashing over a farm track or quiet road. And if it's in the mood for dancing, bunnies beware.

Web tip www.bbc.co.uk/nature/life/Stoat

Some other things to look for in winter:

Otters feeding over kelp beds; **Barking** of courting foxes; **Kingfishers** on lowland rivers; **Star gazing** on clear, cold nights.



Support for our seas

A network of Marine Protected Areas will help safeguard our seas for coming generations and offer protection for important animals, plants and habitats.



Flame shell reef surface.



Scotland's seas are home to a remarkable range of plants and animals, living in a hidden landscape of peaks, troughs and fertile plains, every bit as dramatic as above the waves. Our seas are a precious resource vital to our economy, supporting industries such as fishing, tourism and recreation, providing us with food, energy and jobs.

Protecting our seas is great for wildlife, like flame shells, phosphorescent sea pens and fireworks anemones, fragile creatures, each as spectacular as their name suggests. Balancing the competing demands on our seas is of course good news for all of us as a maritime nation.

Areas of sea around the world are being identified for protection, helping to ensure that a healthy and productive marine environment remains for future generations. This includes a network of Marine Protected Areas (MPAs) being established by the Scottish Government.

Scotland's MPA network will help to look after a variety of vulnerable wildlife: from large animals like the common skate, the largest fish of its kind in Europe, but no longer so common; to one of the world's longest living creatures, ocean quahog, a shellfish which can live for more than 400 years; and the slow-growing hard seaweed, maerl, which forms colourful spikey carpets on the sea floor providing important nursery areas for many creatures, including scallops.

Announcing 30 new MPAs this summer, Richard Lochhead, Cabinet Secretary for Rural Affairs, Food and the Environment, said the plans would "enhance our marine environment so that it remains a prized asset".

He added: "Our waters support a huge diversity of marine life and habitats, with around 6,500 species of plants and animals, and are among the richest in Europe for marine mammals. Many of these sites will provide protection for our seabirds like the black guillemot, and sandeels which provide a vital food source."

A new MPA in the North-east Faroe-Shetland Channel is one of the largest marine protected areas in the European Union. This area will help to protect deep-sea sponges, inhabited mud and geological features.

Why have Marine Protected Areas?

Marine Protected Areas are recognised around the world as one way to support the marine environment. New Zealand and Australia are considered world leaders, following the establishment of areas such as the Leigh Marine Reserve and the Great Barrier Reef Marine Park.

Set within a broader framework of marine planning and management, MPAs can play an important role in helping our seas regenerate. This helps ensure that they continue to provide us with the resources we all rely on, like seafood,

and other benefits: for example kelp forests help protect our coast from storm damage. When we link individual MPAs together into a network, they can provide even greater benefits for us and for marine wildlife.

Scotland's MPA network is also helping Scottish Government to deliver on several key international and European commitments to protect biodiversity in our seas, such as the Convention on Biological Diversity.

Protecting our marine environment

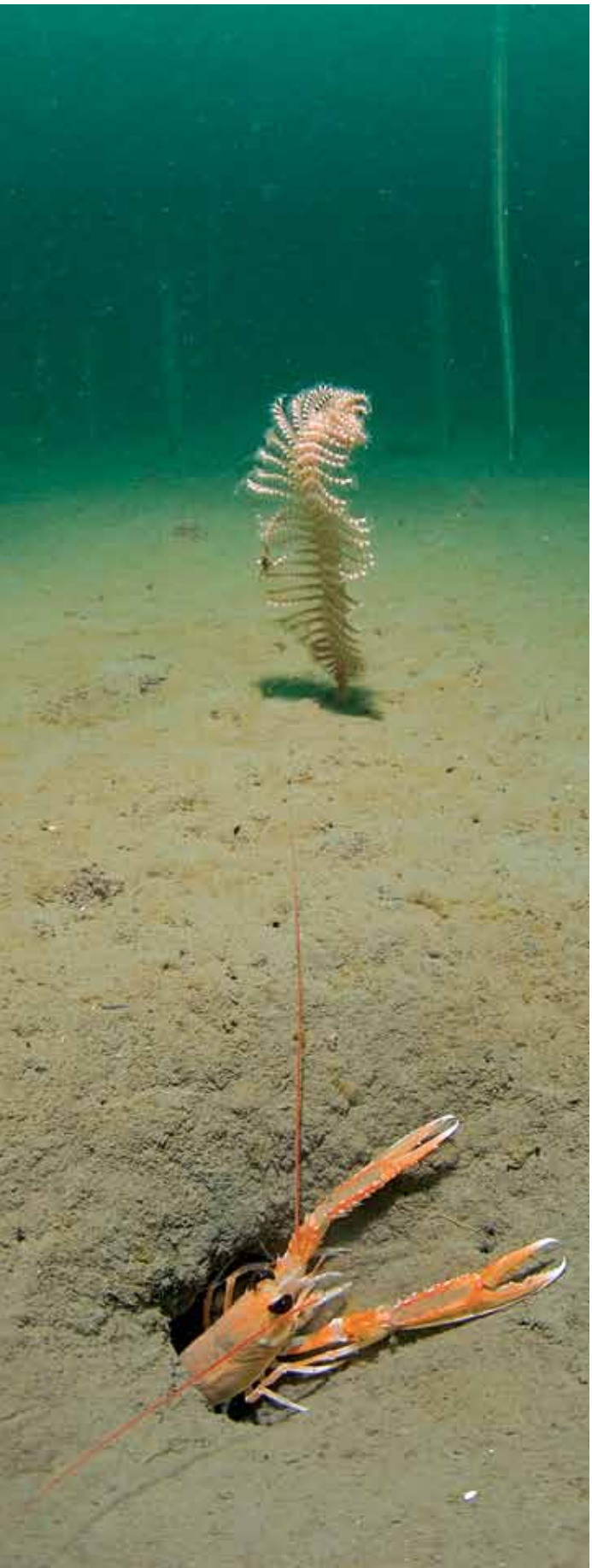
Scotland's wider MPA network contributes significantly to the protection of our marine environment. In total 20% of Scottish waters are now covered by a protective designation, including:

- 30 Nature Conservation MPAs
- 47 Special Areas of Conservation (SACs)
- 45 Special Protection Areas (SPAs)
- 61 Sites of Special Scientific Interest (SSSIs)

Scotland's Nature Conservation MPAs have been identified based on the best available evidence, supported by a programme of marine surveys and research. Each area was assessed for the presence and quality of certain features and whether management could effectively protect them. The contribution each area would make to the wider MPA network was also considered. Only locations that passed all stages of the assessment were considered for inclusion in the network.

Management and monitoring

Nature Conservation MPAs are likely to have different types of management depending on the conservation objectives and the sensitivities of each area's protected features. MPAs are currently areas where many different activities take place, however, those that are not compatible with achieving an MPA's conservation objectives may be restricted.



1
Hydroids growing on seaweed in the tide-swept Caol Scotnish narrows in Loch Sween.

2
Burrowed mud supports a rich community of animals that live within or at the surface of the mud. Here a langoustine (*Nephrops*) emerges from its burrow with different seapen species in the background.



3

Marine Scotland, the Scottish Government directorate responsible for the sustainable management of our seas, will normally identify and implement any required management measures. Management plans will be developed for each MPA to ensure the conservation objectives are achieved. Marine Scotland will take overall responsibility for the development and implementation of management plans unless a marine management scheme or other form of local agreement can be established.

Work on completing the network isn't over yet. As the Scottish Government's adviser on protected areas for nature conservation, SNH has recommended that four further MPAs be considered for designation. These include important areas for basking sharks, minke whales and Risso's dolphins, as well as conserving seabed habitats to the east of the Shiant Islands. Scottish Government is also considering 14 marine draft Special Protection Areas. A decision on these proposals is expected in 2015.

Meanwhile a six-yearly reporting cycle has been identified for Scotland's MPA network. This will include a report to Parliament setting out the progress made in managing the sites, with the first of the reports expected in 2018.

3
Survey divers returning to their boat.

4
A black guillemot on the water showing its distinctive bright red legs and feet.

Working with others

There are undoubtedly challenges ahead as we work together to accommodate different uses, such as fisheries interests and large offshore renewable energy projects, alongside the needs of our marine wildlife and habitats. But MPAs are not intended as fisheries management tools. While there is a presumption of multiple use within MPAs, including fishing, SNH has recommended that specific fishing activities that pose a risk to an area's protected features will require some form of management. In most situations existing measures and planning are expected to be sufficient; however, additional powers such as Marine Conservation Orders can be used where necessary.

Engagement with the fishing industry whilst developing Scotland's MPA network has been critical and has ensured a good understanding of the overlap between fishing activities and protected features across the network.

Alistair Sinclair, Chairman of the Scottish Creel Fisherman's Federation said: "The vast majority of fishermen operating around the Scottish inshore waters are creel fishermen. We support a well-managed network of MPA's as forward thinking creel fishermen recognise that practical

steps are required to take better care of our inshore waters. Properly managed, the creel sector has a very low environmental impact and we acknowledge the need to enhance and protect areas from destructive fishing methods.

"We all have our part to play and if the whole industry embraces MPAs we will without doubt start the process of enhancing our marine environment, creating more opportunities for communities around our coastline."

Bertie Armstrong, Scottish Fishermen's Federation chief executive, said: "The fishing industry recognises the importance of protecting vulnerable marine ecosystems and we are pleased that our fishermen have had the opportunity to use their knowledge and experience of our seas to help influence the designation of the final chosen sites. We have demonstrated our support already by introducing with immediate effect our own voluntary protection measures in 11 specific sites covered by the new designated MPA network."

Find out more about Marine Protected Areas at www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/mpas/

4



Could the eagle have landed?

Parts of the south of Scotland ought to have more golden eagles. Our research shows that, with some intervention, we could see up to 16 breeding pairs in the area. Paul Haworth, Alan Fielding and Des Thompson report on recent work.



Around 440 pairs of golden eagles nest in Scotland – there may be more, and next year's national survey will tell us for sure. But in the south of Scotland, stretching from Galloway to the Moorfoots, and below the Central Belt down into the border, only a few eagles manage to nest each year.

By dint of wild landscapes, upland and woodland habitats, and ample food, there ought to be more of these majestic birds. Even the Lake District and northern Pennines are capable of supporting them. However, recent years have witnessed less than five breeding pairs in the south of Scotland. Youngsters are seen regularly, possibly originating from a Galloway or Borders' nest, and a few may come over from Cowal and Arran. Although the

Scottish Highlands are the stronghold, we know from satellite tracking that birds do not cross the Central Belt.

Following concerns about the plight of golden eagles in the south of Scotland, triggered by the illegal poisoning of a bird within 25 miles of the Scottish Parliament, Ministers asked us to look into the prospects for these birds. A group of representatives of Government, agencies, non-governmental organisations and land management bodies, set to work looking in detail at each of the existing and former ranges of golden eagles in the south. Excited at the challenge, we published a report which was proclaimed by the BBC with the headline: 'Golden eagles can return to the south of Scotland.'

How many pairs could the south hold?

We adopted what turned out to be a novel approach, where nine principal regions in the south of Scotland were assessed for suitability. Across each of these we looked at a wide range of factors which could, potentially, benefit or undermine the presence of successfully breeding eagles. Rainfall, plant growing days, potential recreational pressure, records of persecution, wind farm developments, nest sites and woodland cover were all studied in detail. We also had a helping hand from a satellite-tagged golden eagle named 'Roxy' (a female, originally thought to be a male and named after a

famous raptor worker in the south, the late Dick Roxburgh). Born in Galloway, and last year becoming one of the youngest recorded breeding golden eagles in Europe when aged just three, her travels bore out our findings on suitable habitat for the birds.

Gradually, a picture emerged showing that some parts of the south of Scotland could hold more pairs of birds. Across the entire region there could be as many as 16 pairs. However to have more birds required a landscape with ample food, which was free from persecution and disturbance. Increasingly wetter spring weather in the south-west also presents a real problem as nesting pairs there may struggle to rear as many chicks as they have done in the past.

The prospects in some areas are good, and with our growing knowledge

of eagle diet we should be able to pinpoint improvements needed. Rabbits, mountain hares and grouse feature regularly in the diet, as does carrion – mostly sheep and deer. However, a wide range of other prey has been recorded, including seabirds, wildfowl, waders, foxes, badgers, snakes, and occasionally even other birds of prey.

Firing the public imagination

It's an exciting development for a bird that is a Scottish icon, yet has for too long been seen as a highlands speciality. We can foresee wonderful benefits for the rural parts of southern Scotland if eagles return. Tourism would be a winner, but so too would the

image of the south as a land fit for the very best of nature. And who knows, even England could benefit from a resurgence in numbers, and if we share some of the birds recently reintroduced to Ireland then all the better for us all.

The response to the report has been excellent. Scotland's Minister for Environment and Climate Change, Paul Wheelhouse, commented: "It is great news that south Scotland could support so many pairs of golden eagles. We will work hard to ensure they are given the best possible chance to expand their population and range, given the region contains habitat that we would expect to sustain a greater population of this most magnificent bird."

Of course, there is continued concern that illegal persecution threatens the birds, and this would



have to be monitored closely. Duncan Orr-Ewing, RSPB Scotland Head of Species and Land Management, remarked: "These magnificent birds should be given every opportunity to recover and reoccupy lost range, and must be protected in practice from the effects of human persecution, which remains a significant threat to this species, and in particular to this perilously small and isolated population."

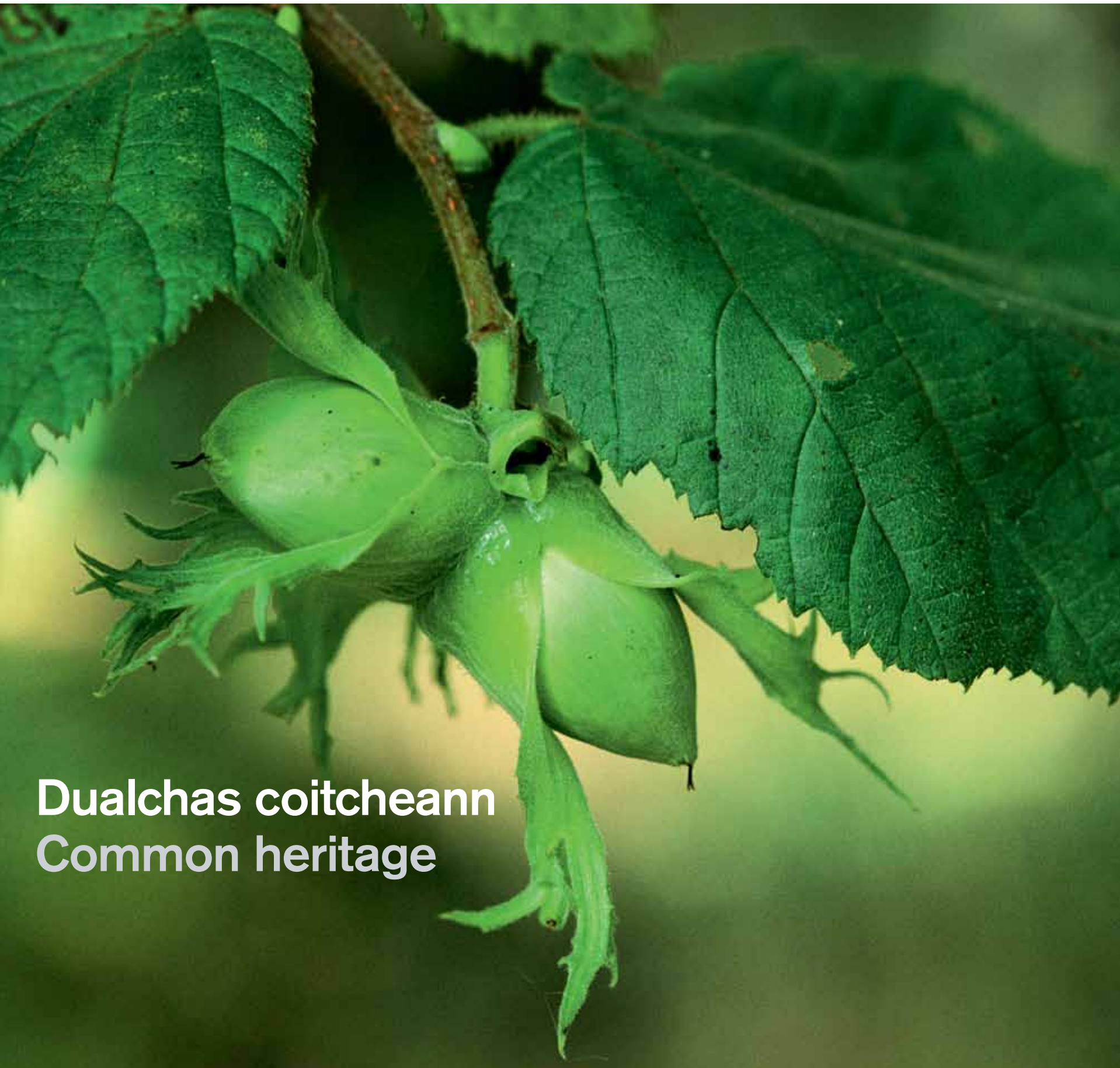
What next?

Re-establishing eagles in any locality is clearly going to be a long-term process. We concluded that the next steps should include working to improve habitats and food supplies for eagles, and assessing where further birds might come from, notably in Argyll,

Cowal and Arran. Practical work on the ground could be funded through a number of routes, such as the Scotland Rural Development Programme (SRDP) and Forestry Commission Scotland woodland grants.

We sense there is a real eagerness to see more eagles in the south now. From our standpoint, we simply want to see this magnificent bird range free and wild, and settle in all suitable areas of Scotland.

Further reading:
www.snh.org.uk/pdfs/publications/commissioned_reports/626.pdf.
www.roydennis.org/animals/raptors/golden-eagle/satellite-tracking/roxy-2010-present/
Galloway and the Borders (2007) by Derek Ratcliffe, published by HarperCollins, London.



Dualchas coitcheann Common heritage



Ruaridh MacIleathain looks at the significance of the hazelnut in Gaelic folklore and culture. Believed to be a source of knowledge and recognised as a practical raw material, it's little wonder it occupies a special place in the heart of many Gaels.

Cnò a' Ghliocais

Faodar a' tomhas nach eil bliadhna air a dhol seachad bho Linn Meadhanach na Cloiche anns nach do dh'ith cuideigin ann an Alba co-dhiù aon chnò-challtainn – tha iad air a bhith mar phàirt de ar dualchas airson ùine mhòr. Bha na Gàidheil riamh measail air a' chraoibh-challtainn oir faodar slatan dìreach ach sùbailte fhaighinn bhuaipe. Bha am fiodh feumail airson casan innealan, staingean clèibhe, cearcallan baraille is mòran rudan eile a dhèanamh. Faodar preasarlach a dhèanamh dhen chraoibh, agus na slatan a dh'èireas às a bhuain gu tric gun a bhith a' marbhadh na craoibhe. Bha an calltainn air a chleachdadh mar sin airson gual-fiodha a dhèanamh.

Ach 's dòcha gur iad na cnothan a bu mhotha air an robh na Gàidheil measail oir, a bharrachd air a bhith na bhiadh math, bhathar ag ràdh gun robh buadhan sònraichte co-cheangailte riutha. Ann an sgeulachdan na Fèinne agus beul-aithris eile, bha linne ann an abhainn far an robh naoi craobhan-calltainn a' fàs. Dh'ith bradan cnothan a thuit don uisge agus ghabh e gliocas nan cnò. Duine sam bith a dh'itheadh feòil a' bhradain sin – gheibheadh e fios thar chàich. 'S ann mar sin a fhuair Fionn MacCumhail a chuid tuigse air an domhan.

Bha e na bhuannachd do chloinn a bh' air am breith as t-fhoghar. Nam faigheadh iad sùgh bainneach nan cnò neo-abaich mar a' chiad bhiadh aca, gheibheadh iad an dà-shealladh. Agus bhiodh daoine àbhaisteach a' feuchainn ri ro-innse a dhèanamh air càraid a bha ri suirghe. Chuireadh iad dà chnò calltainn còmhla ann an teine. Nan losgadh na cnothan gu sìtheil còmhla, bhiodh pòsadh sona a' leantainn. Ach nan spreadhadh iad ann an teas nan lasairean, cha mhaireadh an suirghe fada tuilleadh!

Tha sgeulachd ainmeil mun chnò-challtainn mar chnò a' ghliocais air a h-innse anns an Eilean Sgitheanach, far an robh Cù Chulainn uaireigin a' sabaid leis a' Bhanrigh Sgàthach a bha a' fuireach ann an Slèite. Cha b' urrainn don dàrna gaisgeach a' chuis a dhèanamh air a' ghaisgeach eile, agus co-dhùin an dithis cnothan-calltainn ròsta ithe airson 's gun ionnsaichheadh iad mar a ghabhadh iad làmh-an-uachdair air an neach eile. Ach thug na cnothan tuigse dhaibh gu bheil sith nas fheàrr na sabaid agus thug iad an còmhrag gu ceann sa bhad. 'S dòcha gum bu chòir dhuinn uile barrachd chnothan calltainn ithe!

The Fruit of Wisdom

One can imagine that every year since Mesolithic times somebody in Scotland has consumed hazelnuts, as they have long been part of our heritage. The Gaels always favoured the hazel tree as it furnished them with straight but flexible rods. The wood was used for tool handles, creel ribs, barrel hoops and many other things. The tree was coppiced and could be used in that manner as a regular source of raw material for making charcoal.

But it is perhaps the nuts that were most important as they were seen as carrying special virtues. Fingalian legends tell us of the salmon that ate the hazelnuts of knowledge and who passed the wisdom on to any human that consumed their flesh, the great Fingal (Finn McCool) being the most famous. Autumn-born children who were given the milky fluid from unripe nuts as their first meal would develop prophetic powers. And ordinary people would predict the outcome of a romance by watching how two hazelnuts, representing the couple, would burn in a fire.

A famous legend from Skye tells of an ongoing feud between the warrior Cuchullin and Queen Sgàthach from Sleat. Neither could defeat the other in combat and, in desperation, they both resorted to eating roasted hazelnuts in an effort to understand how to be victorious. But the nuts granted them the wisdom to discontinue their fighting and to make peace. Perhaps we all need to eat more hazelnuts!



North face first

Climbers are taking part in the most detailed botanical survey ever to be carried out on part of Britain's highest mountain – Ben Nevis.

The mountain, and some of its satellite hills, provide exceptional habitats for rare arctic-alpine flora. The three-year initiative will involve ten experienced climbers and two climbing botanists. They will conduct a roped-access botanical survey of the 125 hectares that make up the steep north face of the Ben.

These particular cliffs offer one of the few opportunities in the British Isles to search for arctic-alpine species in locations still unexplored by scientists.

It is hoped that the 4,409ft mountain will give up some of its 'remaining secrets' during this innovative survey, which brings together mountaineers, geologists, botanists and film-makers. The role of the professionally qualified mountaineers will be crucial as their knowledge will help get the botanists and geologists into the most scientifically interesting but physically challenging spots.

Project Manager Tristan Semple of the Nevis Landscape Partnership said "This project brings geo-botanical surveying into the 21st century with multi-disciplinary science, revolutionary technology and ecologically sensitive approaches to accessing some of the steepest and most difficult terrain in the UK."

The 2014 survey took place in August and will be followed by similar surveys in 2015 and 2016. At the end of the three years the team hope to have a blueprint for other collaborative surveys of cliffs in Scotland where botanical and geological data are nationally important.

Scottish Natural Heritage believes that a number of new locations for rare species will be found, as well as some species that have so far gone unrecorded on Ben Nevis. The survey will also inform future land management decisions.

Cathy Mayne, an SNH Operations Officer in Lochaber, said: "We are very excited to be doing this joint venture which could yield important new records on the rare plants found on Ben Nevis. The results should tell us more about the geology of the north face of Ben Nevis and the influence this has on plant distribution. It should also flag up any imminent threats to the plants, and help us decide if any action is needed to help them. In our first survey week in 2014 we managed to find and record new locations for a total of three Nationally Rare and eight Nationally Scarce species, one of which has not previously been recorded on Ben Nevis. Our climbers are also developing into very competent and enthusiastic montane botanists."

The project, which is being led by the Nevis Landscape Partnership, is supported by the Heritage Lottery Fund, SNH, The Highland Council and equipment manufacturer Mammut.

Further information at www.nevispartnership.co.uk/index.asp



Medal Routes goes mobile!

The Commonwealth Games are over, but the challenge is still on to deliver a long-term physical activity legacy from the Games.

We are one of the funding partners for Medal Routes, the Ramblers Scotland initiative that really built up momentum in the run-up to the Games. Medal Routes provides information on local walking routes, and encourages people to progress from the 15-minute bronze route to the gold route of up to 60 minutes.

Information about Medal Routes is available online at www.ramblers.org.uk/medalroutes and the recently launched Medal Routes App now allows you to find and walk hundreds of Medal Routes across the country using your mobile device. You will gain virtual medals for every walk you complete and you can challenge your friends on the leader board. You can also set yourself a personal goal and monitor how you are getting on, and even create your own wonderful walking routes to share with the Medal Routes community.

Download now for FREE on Apple and Android devices:

Visit www.medalroutes.org on your device to download or search for 'medal routes' in your App store.



Mapping Scotland's wild land

In June, SNH published a new map of wild land areas, identifying the most extensive areas in Scotland where a high degree of wildness can be experienced.

This map is based on an analysis of several geographic datasets that enable us to compare an area's remoteness, the level of naturalness perceived, how challenging the terrain is to traverse, and the extent to which modern development can be seen.

Using statistical analysis and informed judgement, 42 areas were identified. These cover 19.5% of Scotland, from Shetland in the north to the Merrick in the south. The map provides the basis of the Government's new approach to safeguarding wild land, set out in Scottish Planning Policy. More information can be viewed on our website at www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/wild-land/mapping/



Counting butterflies

Butterfly Conservation recently announced the results of their 'big butterfly count 2014' with the small tortoiseshell being the most commonly spotted butterfly in Scotland.

A specially created website attracted 94,000 visitors and 27% of the records submitted came via the smartphone app that was developed in 2013. Ultimately 44,000 people took part in the count which is now the biggest survey of butterflies in the world. There is no doubt that electronic records and recording are beginning to make a real impact in the way we measure our natural environment.

The project sprang into life in 2010 and is a valuable tool to count the number of butterflies and also to give a general snapshot of the health of our environment. Figures overall for 2014 were a little disappointing compared with 2013 which was an excellent year following a very tough 2012 for butterflies.

The small tortoiseshell may have been the most recorded butterfly in Scotland but in numerical terms the numbers recorded dropped by just over 20%. The peacock was the second most common butterfly observed in Scotland, with the green-veined white coming in third.

You can read all about the big butterfly count at www.bigbutterflycount.org/2014mainresults



Greenspace gives us feel good factor

People who regularly visit their local greenspace are more likely to feel healthy according to a recent Scottish Natural Heritage report.

The report, based on surveys conducted between 2004 and 2013, reveals those rating their health as good tend to meet the national guideline for physical activity within an outdoor environment.

However, the report finds that less than half of us visit our local greenspace, or the wider outdoors, at least once a week.

Greenspaces, such as parks, playing fields, allotments, woodlands and riverside walks, provide a range of economic, social and environmental functions that benefit both people and nature. The survey results show that the majority of people in Scotland are aware of the benefits that these spaces can bring to their physical and mental wellbeing. Nevertheless, one third of us do not do any outdoor physical activity.

John O'Neil, a member of SNH's greenspace team, said "Ensuring that people have access to good quality greenspace close to where they live is important. It can help encourage people to visit regularly and be more physically active. This will mean people are more likely to be both healthier and also happier about their local neighbourhood; all of which in turn contributes to improving people's health and wellbeing across Scotland."

The hope is that the report findings will influence those developing policies and making decisions that affect local greenspaces.

The report makes recommendations on how to best develop policy and support targeted action to improve the quality of Scotland's urban greenspace, and thereby contribute more to people's quality of life.

Find out more at www.snh.gov.uk/about-scotlands-nature/habitats-and-ecosystems/greenspaces-and-gardens/greenspace/



Artistic reflections

Year of Natural Scotland saw several artist residencies hosted by four of the country's leading environmental organisations. Creative Scotland co-ordinated the project and commissioned independent curator Susan Christie as a Special Advisor. Here Susan reflects on these fascinating projects.

Ordinarily when artists work with public agencies they do so based around a commission for items such as an installation, artwork, photography or interpretation materials. The client normally has a fairly firm idea of what they are seeking and in that arrangement you tend to know from an early stage what you are getting.

Within this project I wanted to see good work emerging through creating the right set of ingredients and by trusting the artists to respond without a brief. It was critical to support this 'open' approach and to see this as a part of the creative journey.

Thus the Year of Natural Scotland 'Artists in Residence' project was far removed from a traditional commissioning process. Four national bodies supported residencies — Forestry Commission Scotland, Scottish Natural Heritage, Loch Lomond & The Trossachs National Park and the National Trust for Scotland — and an early role for me was working closely with those agencies and selecting artists to contribute to this special year. That wasn't an easy task and those who ultimately came through the selection process were chosen from a very highly skilled pool.

Scottish Natural Heritage's Pete Rawcliffe oversaw the partnership with Creative Scotland. He observed that "When an agency like ours commissions public art we tend to have a clear idea of what we want. However, this 'blank canvas' approach was a good experience. The way that artists respond to and interpret Scotland's nature and landscapes is something we can tap into and can influence how people feel about the natural world as well as the challenges that we face in managing it better."

With that element of the project established, my role thereafter evolved into acting as the link between Creative Scotland, the artists themselves, and the organisations involved. Of course, providing support took different shapes at different times. An informal series of meetings allowed the various artists to come together, for common issues to be shared, and for everyone to support each other.



Walk, talk, think

Each artist was resourceful in testing out different ways and ideas to encourage people to come forward and open up a dialogue. This helped deepen their understanding of the issues facing each organisation and influenced the final work produced.

Rachel Mimiec and Mike Inglis both linked up with SNH but employed slightly different methods to reach their audience.

Rachel's project looked at Scotland's National Scenic Areas. She

walked with numerous groups and individuals in and around Glencoe and Ben Nevis to gain a real appreciation of what National Scenic Areas are and importantly how they are viewed by the local population. Walking and talking as well as being in the area was fundamentally part of her creative process.

Mike Inglis was based at SNH's Battleby office and used a different technique. Using the anonymity of the internal pigeon-hole mail system he invited staff to work with him. He enclosed fragrant leaves from the

'candy floss' (Katsura) tree in the Battleby grounds in a bid to encourage staff to send him their own objects and stories associated with Battleby.

"Initially I wasn't sure what the end result of my assignment would be," noted Mike. "It ended up as a structure I called 'tree church'. It isn't a religious space as such but questions what a church is. It's a place where you can reflect and have a quiet moment to gain a perspective on nature and yourself. The building is 100% recycled and reflects two buildings that used to stand in Battleby's grounds. I was keen

to acknowledge the previous Victorian glasshouses where plants were nurtured and the little hut that stood in the grounds near a very old tennis court. Both are gone now, as the environment gradually claims things back, and this will happen to my 'tree church' too. But for now it's a place to enjoy, and inside the building I created a shrine celebrating decay using the very ordinary elements that surround us at Battleby.

"I normally work in urban settings so it was hugely enjoyable for me to be based at Battleby. The staff were very supportive and many shared their experiences of nature and the grounds with me. Together with the Battleby gardener I planted a rowan tree outside

the tree church. Historically the rowan has had an association with buildings, you see them dotted around old ruins across Scotland."

It can surprise organisations just how much staff become involved and inspired by interaction with artists. Residencies can have very positive impacts:

- challenging organisations around how best to convey their key messages; and
- enticing people to come to places and spaces for the first time, or to experience them in different ways.

2
Based at Brodick Castle, Garden and Country Park on Arran, Karen Rann looked at the nature of change.

3
The created by Mike Inglis at Battleby looked at how the garden and designed landscape there can increase awareness and understanding of issues and opportunities facing Scotland's natural environment.





Capturing the landscape

Nicky Coutts' beguiling new work 'Under the Weather', at the National Trust for Scotland's Inverewe Gardens, is a great example of how the ways in which places and spaces are experienced can be refreshed.

Set amid the stunning landscapes of Wester Ross, this world-famous garden is one of Scotland's most famous botanical attractions. Osgood Mackenzie took what was a barren, rocky outcrop and transformed it into a lush garden, importing and nurturing hundreds of different botanical species. Nicky's wooden structure is perched on the shoreline of Loch Ewe and encapsulates the essence of the original vision by Osgood Mackenzie. Multiple portals offer a glimpse into the way the garden began. This temporary artwork functions on many different levels, from offering shelter to visitors, to providing a thoughtfully designed space that invites us to consider whether the garden has deviated from its original path.

At Loch Lomond & The Trossachs National Park, Steve Messam proposed an extraordinary work entitled 'Whistle'. He was influenced by what had been

seen and heard in Glen Ogle many years ago. "Like all my pieces," he noted, "'Whistle' started off as an idea – the sound of steam engine whistles echoing around the landscape and making a journey from town to wilderness. Making the whistle was a challenge. A lot of my work seems very simple from the outside. I like to keep the ideas clear and fairly minimal at heart. Yet that simplicity is often the hardest thing to deliver.

"The sound of the whistle had to be just right," according to Steve. "On one level the piece sought to trigger something in the memory of those who remember steam engines up the line. That audio memory is very specific, so I had to make sure the whistle would do just that. I like working with landscapes and creating temporary works which act as interruptions in familiar views and help people see landscape with fresh eyes."

The experience of having Artists in Residence as part of Year of Natural Scotland is likely to inspire future activity and there is an appetite for more projects of this nature.

One of the organizations summed this up neatly: "Now that we get it, can we do it again?"

4
At Inverewe Gardens
Nicky Coutts explored
the natural environment
and our will to alter it.

5
Rachel Mimiec worked
with Scottish Natural
Heritage to explore and
celebrate Scotland's
National Scenic Areas.

6
Rachel's work was
boxed and presented in
an OS map-style
presentation.



Year of Natural Scotland 2013

Artists in Residence

Karen Rann
Brodick Castle,
Garden and Country Park
National Trust for Scotland

Nicky Coutts
Inverewe Garden and
Estate in Ross-shire
National Trust for Scotland

Steve Messam
Loch Lomond and The Trossachs
National Park

Rachel Mimiec
Ben Nevis and Glencoe
National Scenic Areas
Scottish Natural Heritage

Mike Inglis
Battleby grounds
Scottish Natural Heritage

James Winnett and Rob Mulholland
The Cuningar Loop (Glasgow)
Forestry Commission Scotland

Creative Scotland supported the residencies with National Lottery funding as part of the Year of Natural Scotland 2013.

Picture perfect

The Scottish Nature Photography Festival took place in mid-September at our Battleby Conference Centre. Nine top speakers gave superb presentations showing the customary range of amazing imagery to make the two-day event a roaring success. As the small selection shown here reveals, the photographers demonstrated that top quality photography and nature go hand in hand.

1



2



Wild Media organised the Scottish Nature Photography Festival 2014, which was attended by around 130 keen natural history photographers and the event once more displayed what a superb venue Battleby is.

Charlie Phillips, Scottish Nature Photographer of the Year 2012, was one of the many interesting speakers at the event, and he has kindly allowed us to use a picture he took on the day from his quad-copter – showing an overhead view of the SNH Conference Centre, offices and grounds at Battleby.

Charlie commented “Many thanks for hosting the SNPF once again – I thoroughly enjoyed speaking at the event and the warm welcome as always from the SNH staff is appreciated by the speakers and guests alike. It’s a great venue in a superb location.”

If you would like to hold an event at our Battleby Conference Centre you can find out all about our facilities at www.snh.gov.uk/contact-us/battleby-conference-centre/

3



1
Ian Cameron –
Skye landscape.

2
Charlie Phillips –
Battleby.

3
Fergus Gill –
Mountain hare.

The first of its kind

Martin Gaywood of Scottish Natural Heritage and Pete Hollingsworth from the Royal Botanic Garden Edinburgh look at the new Scottish Code for Conservation Translocations.



1

In recent years, Scotland has seen an increasing number of 'conservation translocation' projects involving animals and plants that have been deliberately moved and released into the wild for conservation purposes. Indeed some of Scotland's best-known species projects have been translocations – examples have included the trial reintroduction of

beaver to Knapdale Forest in Argyll, and the reintroduction of the white-tailed eagle. But there have also been translocations of less well known species such as woolly willow, pine hoverfly, freshwater pearl mussel and vendace. Conservation translocations can provide a conservation benefit by increasing the number of individuals

or places in which a species can occur. They can also offset biodiversity declines caused by habitat loss, climate change, or other human impacts on the environment. Many conservation translocations are low-risk and can be achieved with minimal biological or socio-economic effects. However, some have the potential for negative impacts on the environment and land uses.

Groundbreaking forum

To assess these issues the 'National Species Reintroduction Forum' (www.snh.gov.uk/nsrf) was established a few years ago. The Forum is chaired by Scottish Natural Heritage and has a membership representing land use, conservation and science interests. The overall role of the Forum is to contribute to broad scale, strategic issues relating to species reintroductions and other types of conservation translocations in Scotland. We believe it is the first of its kind anywhere. The Forum has now produced a *Scottish Code for Conservation Translocations* and accompanying *Best Practice Guidelines for Conservation*

Translocations in Scotland. They were drafted by Scottish Natural Heritage and the Royal Botanic Garden Edinburgh on behalf of the Forum, and launched by Scotland's Minister for Environment and Climate Change, Paul Wheelhouse MSP, in early July. This new Code is not an advocacy document for translocations, but guides the process of evaluating whether a translocation is appropriate, and if so, how to increase the likelihood of successful outcomes, and reduce the likelihood of problems and conflict. The Code and Guidelines are based on the International Union for the Conservation of Nature's 2013 *Guidelines for Reintroductions and Other Conservation Translocations*, but they provide a special focus on both Scottish socio-economic and biological issues. The significant involvement and approval of 26 different members of the NSRF also means that the Code represents a unique approach that has been agreed across a wide range of conservation and land use organisations. You can find out more by going to www.snh.gov.uk/translocation-code

- 1 Translocation of freshwater pearl mussels.
- 2 Pine hoverfly.
- 3 Red kite.
- 4 Woolly willow.

2



3



4



The perfect mix



The most northerly estuary on Scotland's east coast, Loch Fleet is a large tidal basin surrounded by dunes, saltmarsh and pine woods. Whatever the season, this wide range of habitats supports a huge variety of wildlife and a series of inviting paths helps the visitor get the most from this wonderful location.

Loch Fleet became a National Nature Reserve in 1998 and is managed in a partnership with Sutherland Estates and Scottish Natural Heritage. It has also been a Scottish Wildlife Trust reserve since 1970.

The basin housing this wonderful sea loch is transformed into a swathe of mud and sand flats at low tide, with the River Fleet coursing through the exposed basin. These tidal waters provide abundant food supplies for a wide range of waders and ducks and a vital lifeline for migrating birds in winter.

Shelduck, wigeon, eider duck, oystercatcher, curlew, redshank, to

name but a few, feed on the small fish, mussels, and cockles. Impressive numbers of greylag and pink-footed geese, many of which fly in from Iceland, overwinter in the reserve.

The resident harbour seals can be spotted hauled out on the sandbanks at low tide and views are best enjoyed from the Skelbo vantage point. The tidal delights of Loch Fleet are matched by the stunning array of woodland plants in Balblair Wood and Ferry Wood.

On bright summer days, butterflies and day-flying moths flit through the species-rich marram grassland on the dunes. They visit the neighbouring heathland too, and it is here that soft carpets of luscious lichen thrive, interspersed with crowberry and bell heather.

A network of informal paths allows visitors to explore Ferry Links, swept by salt-laden winds coming in off the North Sea. Add to this heady mix a chance to spot otter, roe deer, pipistrelle bat, weasel, fox, stoat and pine marten and it's clear that Loch Fleet is a real Sutherland gem.



With great coastal scenery, a tidal basin, and rich Scots pine woodlands, Loch Fleet National Nature Reserve contains an impressive range of habitats and species.

1

1
View from the southern
shore of Loch Fleet.

2
Curlew.



2



Two walks are promoted on the Reserve, one which takes you through the dune grasslands and north along the coast, the other cuts inland through the tall pine woods to a bird hide beside Balblair Bay.

1 The Ferry Links Path starts from the Littleferry car park and at low tide it is common to see harbour seals hauled out on the sands and mudflats. Look out for large numbers of eider and long-tailed duck in the river mouth and channel feeding on the abundant mussel beds at low tide.

2 The Balblair Wood Trail offers shelter from the wind and rain when the weather is less favourable. Starting from the roadside car park on the road from Golspie to Littleferry, the trail takes you through areas rich in Scots pine woodland. Crossing a newly-replaced footbridge, the trail continues to the bird hide overlooking Balblair Bay. This is a great place to rest and watch the many waders and wildfowl that feed on Loch Fleet as the tides ebb and flow.



Essential information

An NNR since 1998, Loch Fleet lies roughly two miles south of Golspie and five miles north of Dornoch, just off the A9. The minor road leading to the reserve is signposted for Littleferry. The reserve is open all year. The nearest public toilets are in Golspie (car park in centre of village). There are two picnic tables at the reserve, several car parks and two walking trails.

OS maps
Explorer 441 (Lairg, Bonar Bridge & Golspie)
Landranger 21 (Dornoch & Alness)

Trail lengths
Way-marked trails make it easy to explore Loch Fleet.

The Balblair Wood Trail takes you to a bird hide where you could glimpse great views of the many ducks and waders that frequent Loch Fleet. The trail is 1.8 km or 1.1 miles long, please allow about one hour.

The Ferry Links Path is 1.0 km (0.6 miles) long. The trail starts from the car park at Littleferry and takes you out to the dunes east of Ferry Wood.

Terrain
The walks are mostly on firm level surfaces but the ground conditions can vary along the way. You should consider wearing good walking shoes and carry warm clothing suitable for your visit to this sea loch area.

Scottish Outdoor Access Code
Please follow the Scottish Outdoor Access Code and local guidance at the reserve. Please keep your dog(s) under close control or on a short lead at sensitive times such as during the bird breeding season (April to July) and comply with any notices you see. A short lead is taken to be two metres, and 'under close control' means that the dog is able to respond to your commands and kept close at heel.

Nearby attractions
Nearby is the most northerly of Scotland's great houses, Dunrobin Castle. Home to the Earls and later the Dukes of Sutherland, this is one of the oldest inhabited houses in Scotland, dating back in parts to the early 1300s. Just north of Golspie is the Iron Age Carn Liath Broch, sometimes called the Strath Steven Broch, and to the south of the reserve there is a chambered cairn at Embo which dates back to the Neolithic and Bronze Ages. The Falls of Shin are amongst the best places in Scotland to see leaping salmon between May and November.

Further information
You can contact SNH on 01408 634063. You can download a leaflet about the reserve from the publications section of the SNH website (www.snh.gov.uk). If you want to explore the area further, you can also download our *Explore for a day – Caithness and Sutherland* leaflet from this website.





1
Rangers work with a variety of age groups.

2
Working with volunteer groups is part and parcel of being a Countryside Ranger.

Rangers work mostly outdoors, in the countryside, parks, forests, coastal areas and in urban greenspace. That's the easy part of their role to explain.

If you were to draw up a list of the people they deal with it would be lengthy. They are the connection between land and water managers and the visiting public. Undoubtedly they know their patch and those who use it, so there are links too with their local community, their visitors, the people who work for other relevant local businesses and agencies – such as farmers, gamekeepers, foresters, access officers, biodiversity officers,

and local police ... to name but a few. Then there are the many tasks they carry out. They need to be as at home conserving nature, landscapes and historic features as they are welcoming the public. There's a need also to maintain high quality public access facilities, provide information, and maintain path networks and signage. Add to this mix the 'social' tasks such as running volunteer groups, junior ranger schemes, arranging walks and events, leading school groups, working with disadvantaged and minority groups to enable them to experience the countryside, and you begin to gain a sense of the variety and breadth of their work.

Scotland's nature champions

Scotland has a unique and internationally-admired approach to delivering Ranger Services. Ruth Grant, Honorary President of Scottish Countryside Rangers Association, reviews 40 years of development.

2



In the beginning

Our ranger services differ from those of many other countries because they are provided by many different organisations. This is in stark contrast to government-employed rangers working in National Parks and protected areas in many parts of the world. What's more, our rangers have complementary roles in land and people management, rather than focusing mainly on the protection of endangered species.

How did our ranger services develop their unique functions and the professional delivery of them?

In the early 1970s this was the challenge for the Countryside Commission for Scotland (CCS), one of SNH's predecessor bodies. It did not own or manage any land. Land management for conservation and outdoor recreation was fragmented. There were no National Parks, and Country Parks and Regional Parks were in their infancy.

CCS used its grant-giving powers to encourage local authorities, voluntary bodies and private landowners to provide ranger services. To complement and consolidate this, CCS promoted the use of a national badge, held annual

meetings of rangers and their managers and provided a comprehensive training course.

The result was a kind of national ranger service across Scotland where innovation was common and experience freely exchanged.

Much has changed since, including the formation of Scottish Natural Heritage, which retains a strong advocacy role for rangers.

We now have two National Parks with contrasting models of providing ranger services. In Loch Lomond and The Trossachs the posts are within the Park's staff complement while in the Cairngorms the Park Authority grant-aids a number of different employing authorities, rather like the CCS model.

Outdoor access rights and responsibilities have brought new challenges, with many local authority services working across the path networks of the wider countryside, with less emphasis on Regional and Country Parks.

New partnerships have formed including the Ranger Development Partnership comprising representatives of the major ranger employers, SNH and the Scottish Countryside Rangers Association. Its role is to support policy development, promote the work of rangers and co-ordinate opportunities for rangers to share good practice.

Learning and leading

Forty years ago, in November 1974, at the end of the first CCS National in-service Ranger Training course, the fourteen participants decided that they wouldn't just go back to their own patches and not meet again.

They formed the Scottish Countryside Rangers' Association (SCRA). Like all voluntary organisations it has its ups and downs, but it has many significant achievements.

In these days of stressing the importance of getting outdoors for health reasons it's worth remembering that SCRA ran a programme called Healthy Outdoors as part of the International Year of Youth in 1985. SCRA was also forward-looking and was a founder member, along with The



Association of Countryside Rangers in England and US National Parks Service Rangers in setting up the International Ranger Federation.

The Federation now has 63 affiliated associations from 46 countries and runs a triennial World Congress regularly attended by over 300 rangers from around the world. Its charitable arm, The Thin Green Line, raises funds to support the families of rangers killed or wounded in the course of their duties.

SCRA champions the professionalism of rangers through its continuing professional development programme. It also has two other major projects, the Scottish Junior Countryside Ranger Programme, and an archive project to capture and make publicly available the considerable wealth of written and visual material on the development of Scotland's Ranger Service.

It's a story well worth celebrating.

SCRA ran a programme called Healthy Outdoors as early as 1985.

3 Conservation duties are key to a Ranger's work.

4 Leading school groups on outdoor learning experiences can be hugely rewarding.



Scotland's peatlands

Working for our future

Peatlands store almost 25 times as much carbon as the rest of Scotland's vegetation, as well as providing a vital habitat for a range of birds, invertebrates and rare plants, as Andrew McBride explains.

Peatland landscape defines the wild character of much of northern and western Scotland. Yet if we look closer we find peatlands throughout our country – in the Central Belt, in many reaches of Galloway and the Borders, and within a short distance of most towns and cities. In fact more than 20% of Scotland is covered by peat.

However, these areas contribute much more than dramatic scenery or green oases in our industrial heartland. As stores of carbon they are supremely important in helping to tackle climate change; as homes for nature they are special and unique; and as the raw ingredient of rural farming, tourism and crofting they are vital.

Peatlands are hugely important to Scotland. They store almost 25 times as much carbon as the rest of Scotland's vegetation. They are internationally and nationally important habitats for birds, invertebrates and rare plants. They regulate water flow and are therefore increasingly important in flood defence management whilst remaining vital to our fisheries and water supplies.

Our peatlands are also a place for recreation and part of our cultural fabric and a valuable archive of our past. Some of the uses of peat are distinctively Scottish – including the contributions of peat to the whisky industry and as a traditional fuel where trees were scarce.

Internationally important, distinctively Scottish

However, peatlands are in decline – large areas have been developed over centuries with extensive damage to the mantle of peat and its specialised vegetation. Estimates point to as much as 80% of the UK's peatland landscape having been damaged. Most of that peatland is in Scotland, and it is estimated that 70% of our blanket bog and 90% of our raised bog area has been damaged to some degree. Damaged bogs are a source of climate-warming greenhouse gases and reduce water quality.

- 1 Peatlands near Beinn na Lap.
- 2 Striking bog asphodel brightens up our peat bogs.
- 3 The common blue damselfly can be a highlight of our peatlands in summer.

2



1
3

We need to take action to reverse this trend, and to restore and improve our peatlands. As lead advisor to the Scottish Government on peatland restoration, we were allocated a total of £6.7 million to kick-start the restoration challenge. The resulting project 'Peatland ACTION' was born, with an aim to restore 6500 ha of peatland by March 2015. The project has made swift progress, with 105 sites set to benefit from on-the-ground restoration action. Next year, the Peatland Action team will host a series of demonstration events to share best practice in restoration techniques, whilst highlighting the many benefits of healthy peatlands.

Scotland's National Peatland Plan

The Peatland ACTION project contributes to the objectives of a wider National Peatland Plan.

Scottish Natural Heritage, working with Scottish Government and a range of stakeholders drafted a National Peatland Plan to highlight the importance of our peatland. In the plan we drew attention to the opportunities in improving the condition of our peatlands, building on existing initiatives to secure their sustainable use, management and restoration.

We also set out proposals for research and awareness-raising. To achieve these objectives we needed the help and support of all those with an interest in ensuring that our peatland is managed as a national asset which benefits society as a whole. So whether people managed or owned an area of peatland, or simply enjoy their open spaces, their wildlife or their tranquility, a variety of views on this Plan were absolutely vital.

The Peatland Plan consultation ended on 12 September and you can follow our website and social media channels for news on the responses and final published National Peatland Plan. But for the moment recognising the value of our peatlands and proposing actions to help deliver a programme of peatland restoration is a major step in the right direction. Watch this space!

For further information see our consultation booklet *Scotland's National Peatland Plan: working for our future* at www.snh.gov.uk/docs/A1306595.pdf

For more information about our peatland restoration project, Peatland ACTION, check out the project webpages: <http://www.snh.gov.uk/climate-change/what-snh-is-doing/peatland-action/>

For more information about the benefits of healthy peatlands, see: <http://www.snh.gov.uk/climate-change/what-snh-is-doing/peatland-action/why-are-healthy-peatlands-important/>



What is peatland?

There are two main types of peatland in Scotland –

Blanket bog

- Found only in a few parts of the world with cool, wet, typically oceanic climates. In these conditions bog mosses and other plants break down very slowly and gradually form a layer of peat.
- Peat depth varies, averaging between 0.5 and 3 metres, but depths of up to 8 metres are not uncommon.
- Found throughout the Scottish uplands, most extensive in the north and west in areas with gentle slopes and poor drainage.
- Blanket bog covers some 1.8 million hectares, 23% of our land area.
- Rare globally, Scotland holds a significant proportion of the European and world resource.
- Supports some of our rarest and most threatened wildlife, including internationally important breeding bird populations.
- Our largest terrestrial carbon store, holding around 1.6 billion tonnes of carbon.

Raised bogs

- Found mainly in the lowlands.
- In their natural state, these appear as domes growing to 10 metres or more in height. Surface is waterlogged, acidic and lacking in nutrients.
- Vast areas have been lost to agricultural and horticultural practices.
- Fed solely by rainwater.
- Estimates suggest somewhere in the region of 90% of our raised bogs have been affected by past damage.

4
Peatland lochs provide a vital summer habitat for black-throated divers.

5
Blar nam Faoileag; a good example of Lewis Peatland.

6
Sundew.



SNH Area News

Northern Isles and North Highland

Correspondents: Ian Mitchell, Juan Brown, Donna Yule



Major Heritage Lottery award for Flow Country

A £9.6 million project that will make one of the most significant contributions to the UK's climate change targets was awarded more than £4 million from the Heritage Lottery Fund in June.

The 'Flow to the Future' project, co-ordinated by the Peatlands Partnership and with RSPB Scotland as lead partner, is an ambitious plan to protect and restore seven square miles of one of Europe's largest expanses of blanket bog in Caithness and Sutherland.

The ancient environment of the Flow Country holds vast amounts of carbon locked into the peat. There is estimated to be 400 million tonnes of carbon here – more than double the amount in all the UK's forests.

In addition to peatland restoration, the project will develop a range of visitor and education facilities, allowing people to experience the amazing landscapes and habitats of the Flow Country.

Additional funding for this project is coming from multiple sources including £250,000 over five years from SNH.

An economic study commissioned by Highlands and Islands Enterprise predicts that this project will deliver an additional £10.2 million to the Highland economy over a 30 year period, helping to sustain local jobs and support fragile communities.



Better year for Shetland seabirds

The 2014 nesting season was the best for Shetland's seabirds for many years, following a disastrous run of failed breeding for many species in recent times. Seabirds have been struggling due to a lack of sandeels and other small nutritious fish, which they need at crucial times to gain breeding condition and rear hungry chicks.

The cause of this dearth of sandeels isn't known for certain, but is thought to be linked to increased sea temperatures as a result of climate change.

This year, the fish appeared, and as a result, seabirds fared better. The first kittiwakes for five years fledged on Noss National Nature Reserve, while it was one of the most successful breeding seasons for Arctic terns for 20 years. These two species have suffered particularly dramatic declines in recent decades.

Whilst one better-than-average season is not enough to reverse the fortunes of our most struggling species, one seabird which is doing particularly well is the gannet (which eats bigger fish). The mighty gannet colonies at our two National Nature Reserves – Noss and Hermaness – are thriving, and there is no greater wildlife spectacle than the sights, smells and sounds of the towering gannet 'cities' at these two sites.



Our past has a price – but belongs to us all

Many of our earth science sites and features are like open air museums, telling a story from long ago, recording sequences of events and encapsulating morsels of previous life forms.

The horse-tooth stromatolites found on the high cliff top exposures at Yesnaby and part of the geological interest on Stromness Heaths & Coast Site of Special Scientific Interest, are just one example.

These unusual fossil formations are the remains of extensive microbial mats that lived on the shallow margins of the ancient Lake Orcadie. Repeated seasonal growth of the microbial mats up through the sediment and silt created the distinctive layered structures known as stromatolites. Today, several layers of horse-tooth-like stromatolites can be seen in the rock layer sequence, indicating several periods of growth of the microbial mats.

Recently, part of the rock formations have been deliberately damaged and some of the stromatolites removed. Fossil collecting from such a limited fossil source is not permitted and it denies the public the right to view fragments of our past – a story that belongs to us all. The taking of fossils from the SSSI is now part of an ongoing police investigation.

If you plan to hunt for fossils, please follow the Scottish Fossil Code.

SNH Area News

Forth

Correspondent: Sarah Eaton



Recognition for Carse of Stirling project

The Carse of Stirling Ecosystems Approach Project has won an award for local engagement and decision making. The Royal Town Planning Institute which made the award, was impressed by the project's innovative approach to identifying potential land management options and to managing the links between various types of land use.

Funded by Scottish Natural Heritage and the Scottish Environment Protection Agency, the project looked at how to deliver a sustainable approach to land use in the Carse of Stirling area. The aim was to help local groups to be more involved in making decisions on how the land is used.

The project brought together a panel of land managers, local businesses, local residents and recreation interests to investigate the benefits (or 'ecosystem services') which people could derive from the land and how these could change in the future. The findings were then used to develop an action plan which aims to influence flood risk management plans, local development plans and agricultural support.

The Scottish Government has taken a keen interest in the project and it is hoped that the findings from the Carse of Stirling work will be used as a model elsewhere.



A rubbish story from the Isle of May

The Marine Conservation Society reports that beach litter has increased by 140% since 1994, with nearly 2000 items of rubbish for every kilometre of beach. This season the staff on the Isle of May National Nature Reserve have seen the immediate effects that it can have on wildlife.

Four gannets were found tangled in discarded fishing gear. The birds were caught and released but it raises the question of how many more die at sea. Also, more than 20 balloons and hundreds of plastic bottles have been collected from the island's shores.

Last year, island staff found a dead fulmar on its nesting ledge with several pieces of plastic in its stomach. Over 90% of fulmars found dead around the North Sea have plastic in their stomachs. Floating plastics such as fractured plastic bottles and torn balloons are mistakenly eaten by seabirds.

The litter found on the Isle of May comes from many sources – the public, fishing boats, sewage outlets, shipping. All of it will have been carelessly discarded by someone.

If everyone took more care in disposing of their plastic waste responsibly the damage to special wildlife places like the Isle of May could be prevented.



Tentsmuir Point celebrates its 60th birthday

Tentsmuir Point recently marked its sixtieth year as a National Nature Reserve. A special open day formed the main part of the celebrations, which included family-friendly activities such as a bug safari, a 'guess the poo' quiz and sea eagle tracking. Storyteller Lea Taylor entranced the children with her interactive tales.

Children were invited to do drawings of their day which were buried in a time capsule for future generations to discover. Also included in the time capsule are press cuttings and photographs of the celebrations, NNR leaflets, maps, annual reports, reserve newsletters and various Tentsmuir articles.

Tentsmuir Point was declared an NNR in 1954. In 2006, the Point was merged with nearby Morton Lochs NNR to form Tentsmuir NNR.

Notable events over the past sixty years include the introduction in 1995 of tree felling and scrub management to restore the dune system. In 1996, Highland cattle were brought in to graze and in 2002, the dune system restoration project was deemed a success when the tree and scrub cover was reduced to 5%. In 2010, high tides and storms eroded the dune edge to reveal a narrow-gauge railway wagon from the Second World War.

SNH Area News

Argyll and Outer Hebrides

Correspondent: Mags Russell, Patrick Hughes, Roddy Macminn



New Local Nature Reserve Seabird count

Cowal now has its first designated local nature reserve at Broxwood, by Dunoon, on the shores of the Holy Loch. The newly declared reserve, on woodland and foreshore, will be Cowal's first, Argyll and Bute's second and Scotland's 71st local nature reserve.

Councillors unanimously agreed the proposal, submitted on behalf of Sandbank Community Development Trust, which, along with other community groups, is keen to improve the area. A footpath and bird hide have already been in place and in regular use for some time. Shelduck, curlew and ringed plover are just some of the birds you might see feeding before high tide.

Further improvements are listed in a draft Management Plan for the reserve and include planting native species and upgrading the woodland access. There are also plans to install bird and bat boxes to enhance the educational and visitor experience at the site, as well as increasing visitor numbers.

"The local community groups who have been working so hard on this are to be congratulated for their hard work and commitment," noted Councillor Vivien Dane "I am sure that visitors to the new Holy Loch Local Nature Reserve will be delighted at what they find."

Carved by the wild Atlantic, with towering cliffs and impressive sea stacks, the islands of Mingulay and Berneray lie exposed at the far southern tip of the Outer Hebrides. Writing in 1883 William Jolly described Mingulay as 'The nearer St. Kilda' and it is an apt description as both islands share a similar cultural and natural heritage. Standing on top of the 229m 'big cliff' Aoineag, as seabirds wheel amongst breath-taking scenery, the impression is no less spectacular.

Although no longer inhabited by people, in the summer the islands become home to internationally important numbers of breeding seabirds including guillemots, puffins, kittiwakes, fulmars and shags.

They are also host to the UK's largest razorbill colony. With help from the NTS and the RSPB, SNH staff carried out a comprehensive seabird count in June 2014. Scotland's seabird numbers have been declining steadily since the 1980s, but our results this year show numbers up a bit from the previous low. Hopefully this could denote the first signs of a sustained recovery and we'll continue to monitor with interest.

During the summer, boat trips to Mingulay and Berneray are available from Barra and Eriskay and make for an unforgettable day out.

Virtual dives

Virtual underwater dives showcasing some of the Outer Hebrides' most important marine wildlife have recently been published online by Scottish Natural Heritage.

The dives feature computer-generated imagery to reveal some of our hidden marine landscapes and the variety of animals and plants that live in the Sound of Barra. You can 'swim' with bottlenose dolphins amongst seagrass meadows or discover an underwater forest and the crucial role it has in protecting our coast.

The virtual dives were created using real survey data, video footage, photography and sound recordings, to reflect, as accurately as possible, the fascinating and colourful environment in the Sound. The online package also explores some of the conservation issues of today and provides information on responsible wildlife watching and nature-based activities available in the area. We hope these dives will give people a feel for just how special the seas here are and encourage them to explore the sea life of the Hebrides for themselves

Tour our virtual dives on SNH's Scotland's Seas Interactive webpage.

www.snh.gov.uk/about-scotlands-nature/habitats-and-ecosystems/coasts-and-seas/seas-interactive/

SNH Area News

Southern Scotland

Correspondents: Graeme Dalby, Trevor Godden, Andrew Panter



Langholm hen harriers

2014 has been a productive year for hen harriers at the Langholm Moor Demonstration Project, with a total of 12 nests (up from two in 2013) producing 47 fledged young. This is more young harriers than in all previous breeding seasons combined since the Project started in 2008.

The Project is a partnership between Buccleuch Estates, SNH, Game and Wildlife Conservation Trust, RSPB and Natural England, and aims to demonstrate that with innovative management, birds of prey can be maintained on a moor which supports a commercial driven grouse enterprise. To divert the hen harriers from predating red grouse chicks, alternative (or diversionary) food is provided when the chicks hatch. The sudden increase in harrier numbers is a matter of discussion, but it probably reflects good overwintering conditions and a rise in vole numbers.

In addition to the hen harriers, the project team has identified six merlin nests, two pairs of peregrine falcons, around 20 short-eared owls, 12 buzzards, and the moor is the regular hunting ground for two pairs of goshawks.

Despite encouraging red grouse numbers in the spring, in order to protect the breeding population in 2015, there will be no grouse shooting on Langholm Moor this year.

Festival success

With 129 family-friendly events this year attracting some 3,800 attendees over a four-week period, Dumfries and Galloway's annual Wild Spring Festival continues to go from strength to strength. Activities ranged from building bird boxes to creating woodland art, and foraging for wild food.

As a Homecoming Scotland 2014 event, this year's festival celebrated wildlife that comes home to the area each spring. From giant basking sharks and majestic peregrine falcons to beautiful butterflies that travel hundreds of miles for our flowers, Dumfries and Galloway has a great variety to offer.

The festival continued the effort to raise the national profile of the region as a nature tourism destination; this year its economic impact is estimated to have been in excess of £250,000.

The Wild Spring Festival is run by the Wild Seasons initiative, a group of countryside professionals, business owners, and local tourism organisations who are all passionate about Dumfries and Galloway's nature. Through a series of Wild Seasons festivals, that bring together seasonally-based wildlife events, they've established a strong brand identity that will soon extend to the Scottish Borders.

You can find out more about Wild Seasons at: <http://wildseasons.co.uk/home>

Explore for a day

Tourism businesses and accommodation providers enjoyed several Familiarisation Days or 'FAM Trips' in the Borders this year.

These trips inform and enthuse those in the tourism sector about some of the best natural and cultural attractions in the local area so that they can recommend them to their customers. This joint initiative by SNH, the Southern Uplands Partnership and Scottish Borders Council, is based on the itineraries in the newly-launched SNH *Explore for a Day – Scottish Borders* leaflet.

Each day's programme included a taste, literally, of the best locally-produced food and drink, and a first-hand activity experience such as the 'zip wire' at Go Ape in Glentress Forest, archery by the Tweed at Paxton and salmon-casting lessons near Melrose. Visits to Abbotsford House, Kelso Abbey and other places of cultural interest were woven into the spectacular settings of the amazing Borders countryside and its rich wildlife.

Feedback from the trips has been very positive with local businesses better able to make suggestions for days out and enhance what they have to offer to potential and actual customers.

SNH Area News

South Highland

Correspondents: Mike Ingram, Kenny Nelson



Trotternish grazing project

An important long-term study of vegetation change on the Isle of Skye is to be extended until 2021, thanks to funding from SNH.

The Trotternish Ridge in north Skye is home to a wide range of mountain plants and habitats which occur because of the calcium-rich basalt rocks in the area, and is designated as a Special Area of Conservation (SAC). In 1998, concerns about overgrazing and erosion prompted a study project in Coir' an t-Seasgaich, carried out initially by Scottish Agricultural College, and then by the Macaulay Land Use Research Institute.

Fenced study plots were established to examine the effect of grazing by rabbits and sheep in calcareous grasslands. Erosion and revegetation of the steep slopes were also studied.

Responses in the plant communities have been slow, but were evident after about 11 years. Significant changes had taken place among the species that make up the calcareous grassland in plots from which sheep and/or rabbits had been excluded, and this trend has continued in recent years. The project has now been extended for another 8 years.

The project is under the management of SNH with local contractors carrying out the botanical and erosion monitoring, and fence maintenance works.



Rare Lady

Rum National Nature Reserve has long been recognised for its rich variety of Highland wildlife, and this summer saw an addition to the plant list with the discovery of a new species of orchid.

Reserve Manager Mike Ingram discovered the rare Irish Lady's Tresses Orchid on meadows near the village of Kinloch. It's a small, attractive but easily overlooked orchid with distinctive spiral columns of white flowers. The world distribution of this delicate flower is a few sites in western Scotland, Ireland and south-west England. It was first recorded in Scotland in 1921 but relatively little is known about its ecology, although it appears to thrive in damp, grazed pastures such as the site on Rum. It rarely sets seed in the UK, appearing to reproduce mostly by vegetative means.

The official status of this species is Nationally Scarce and UK Biodiversity Action Plan species. Mike encountered fifty two spikes at this one colony "I was taken aback when I came across these delightful flowers. There has been a huge amount of work in recording the natural history of Rum NNR so the last thing I would have expected since arriving here last Autumn was to find such a distinctive and notable species as this which is also a new vice-county record."



Community broadband

Creag Meagaidh National Nature Reserve has for many years been building good links with the community around Laggan, showing how the Reserve is a local asset. A new project has shown how the community and NNR can work together for mutual benefit with the installation of a new high-speed broadband link.

Creag Meagaidh NNR together with Laggan businesses and residents have long struggled with poor internet connections. In 2012 the local community raised funds locally and were successful in obtaining funds from the LEADER initiative to set up its own wireless broadband. Using a network of masts, broadband is picked up at Kingussie, and beamed to Laggan, Kinlochlaggan, and now Creag Meagaidh NNR, a total distance of 20 miles. The Creag Meagaidh mast allows access to the broadband service for some of the immediate neighbours of the NNR.

Reserve Manager Rory Richardson relocated a redundant mast used at a time when radios were the main communication method: "The internet and email are key tools nowadays for our operation at Creag Meagaidh, and this project is another good example of the ways that NNRs and local communities can work to benefit each other."

SNH Area News

Tayside and Grampian

Correspondents: Ewen Cameron, Julia Quin



Wildlife in the rough

By the time you read this, the 2014 Ryder Cup at Gleneagles will have been played for and won.

Whether or not you are a 'golf fan', there is no doubt that golf courses have the potential to do a great deal for Scotland's wildlife. Through their GreenDrive programme, the Golf Environment Organisation (GEO) promotes sustainability to the organisers of golf tournaments and the 2014 Ryder Cup has demonstrated some excellent examples.

One of the legacy projects they picked up on was to establish a grant fund for environmental and community projects at golf clubs in Perth and Kinross. With advice from the Scottish Golf Environment Group, many clubs took up the offer.

SNH runs occasional 'Sharing Good Practice' events on how to maximise the benefits to wildlife on golf courses, and many of the techniques also reduce course maintenance costs. If you are involved in golf and want to do your bit to help, then start here: www.golfenvironment.org www.sgeg.org.uk/ www.snh.gov.uk/policy-and-guidance/sharing-good-practice/



What a transformation

Congratulations to Aberdeen City Council and partners for the fantastic achievement of the East Tullos Burn restoration project.

Neglected in the past, the burn suffered from poor water quality and fly tipping problems.

The project looked at open space surrounding the burn to see how it could be improved and 'linked' more closely to the burn. Begun in 2010, the project helped improve water quality and it now provides a much more attractive green space for the local community in Torry and a haven for wildlife.

Two local companies, CBEC Eco Engineering and Walking the Talk, produced a design based on the desires of local people and what was realistic on the site. The heavily channeled burn now has a more natural course, trees have been planted, ponds created and new paths and cycle ways developed. The NE Local Biodiversity Partnership funded the wildflower seed sown on site and this summer the results have been stunning.

This project shows what can be achieved in the heart of one of Scotland's great cities...so what's stopping you?

www.cbecoeng.co.uk
www.walking-the-talk.co.uk
www.nesbiodiversity.org.uk



East Haven Homecoming

As its 800th birthday coincided with Scotland's Year of Homecoming, East Haven in Angus celebrated with a number of events and new projects.

As one of the earliest recorded fishing communities in Scotland, residents particularly wanted to strengthen the local community, to share information about their rich heritage and improve the natural amenity and local environment.

The BBC Beechgrove Garden was invited to help create a community garden and, with funding from Angus Environment Trust, a Maritime and Heritage Point has been designed and constructed. The imaginative design, which has been built around the public toilet block, reflects a historic fisherman's shelter that once stood here. With many visitors arriving in the village from the Angus Coastal Path; information boards reveal much of the local history to cyclists, walkers and residents alike.

Another claim to fame enjoyed by the village is that it hosts the only known wild population of greater yellow rattle in Scotland. The nearby Site of Special Scientific Interest was established to protect this striking plant which grows in the sand dunes.

www.easthavenangus.com



Community success

The Barrmill and District Community Association (BDCA) based in North Ayrshire is showing how a community driven project can benefit biodiversity. In 2012 the BDCA received a grant to commission an environmental survey of the surrounding area, covering 20km².

Environmental consultants were brought in to carry out a variety of surveys before inviting the community to join them in a Bioblitz event. Stage two of the project went ahead in August 2014 where the community teamed up with the same consultants and the Ministry of Defence to allow surveys to take place on the normally restricted MOD land.

The results of the surveys are being used to create a biodiversity action plan, which will then be used for the conservation of species and habitats within the area such as farmland birds and lowland raised bog.

This work will be led by the community working with local landowners and partners. The BDCA's sub-group, the Barrmill Conservation Group, are a dedicated bunch of people who work hard to improve the local environment for wildlife and people. New volunteers are always welcome to assist with the conservation efforts. For more information, contact Fiona on 07920 098 171.



Marine biosecurity

Following on from the creation of a biosecurity plan for the Clyde and in response to changes in legislation, the Firth of Clyde Forum (FoCF) has published, in partnership with SNH, groundbreaking guidance on how to create a biosecurity plan for a marine site/event.

Adopted UK-wide as best practice guidance for use in casework, the Royal Yachting Association Scotland (RYAS) used it to create a biosecurity plan for the Commonwealth Games Flotilla, which recently brought 250 boats to the inner Clyde.

Sarah Brown, Project Manager of the FoCF said: "We wanted to make it as easy as possible for businesses and individuals to know what to do in response to the new legislation. It is great to see the guidance already in use."

"Creating a biosecurity plan was actually simpler than we expected," according to James Stuart, Chief Operating Officer of RYAS. "We established what the effective measures would be, including pre-event communications and a risk assessment based on the salinity of the destination pontoons."

Stan Whitaker, SNH's Invasive Non-native Species expert, added: "The new guidance on biosecurity planning is arguably the best of its kind in Europe, but we still need to be vigilant."



70th Local Nature Reserve

Scotland now has just over 70 Local Nature Reserves (LNRs). In the last 3.5 years, 10 new reserves have been designated. The 70th designation was Cambusnethan Woodland in North Lanarkshire. This is the 9th LNR for the council and was designated in May.

The site is approximately 43 hectares and is mainly ancient and semi-natural woodland. There has been considerable work to upgrade the path network and improve the area for nature conservation. There are several walking routes through the site, including links to the Clyde Walkway which runs from Glasgow to New Lanark. The ruin of Cambusnethan House, regarded as the best surviving example of a country house in the Gothic Revival style, lies between the two woodlands that form the LNR. Signs of badgers and otters have been found in the LNR and it is locally known as the Bluebell Woods.

SNH's website lists all the LNRs in Scotland with information and links to where sites are and how to access them.

LNRs are areas of at least locally important natural heritage and are designated and managed by local authorities, to give people opportunities to learn about and enjoy nature close to where they live.



Hebridean trail

Stuart Benn of RSPB Scotland assesses the Outer Hebrides Bird of Prey Trail which will open in Spring 2015.

What are the things that visitors most want to see and experience when they come to Scotland?

Edinburgh Castle, Loch Ness, friendly Glaswegians, Ben Nevis, the Forth Rail Bridge would probably make most lists. And when it comes to the places and people, the good news is that they are guaranteed – they're always there.

However, increasingly wildlife tourism is a big draw for visitors to Scotland.

The mighty golden eagle features high on many wildlife 'must see' lists. But how can people possibly connect with a bird that roams over such large and often remote areas? Quite a challenge exists if you want to grab that trip-defining sighting that you'll tweet, photograph and share with your family and friends.

But help is now at hand. Visit the Outer Hebrides and go on the Bird of Prey Trail.

The Outer Hebrides are the best place in Britain by a long, long way to see golden eagles. And that's not all – sea eagles, merlin, hen harriers and short-eared owls are all present too, and this abundance of wonderful birds of prey, coupled with the open landscape, combines to make

sighting them, if not guaranteed, a real possibility. Nevertheless, most people could do with a bit more direction so, just to make it as easy as possible, the best places to go to are being highlighted through the Outer Hebrides Bird of Prey Trail which will launch in spring 2015.

The trail consists of a series of roadside stops stretching the length of the islands which can be visited as part of a wider tour or individually depending upon how much time you have and what you want to see. To help plan your trip spotting tips will soon be available online, there will be a pocket-sized trail leaflet, and at the stops themselves, interpretation boards are planned.

Nothing is certain when it comes to viewing nature, but the Outer Hebrides Bird of Prey Trail will certainly help.

Added to the existing attractions such as the Callanish standing stones, the most gorgeous and quiet beaches in Britain, the unique culture, and the sheer abundance and variety of machair flowers, the trail is one more welcome jewel in the Outer Hebrides tourism crown.

The Outer Hebrides Bird of Prey Trail is a partnership project run jointly by the Outer Hebrides Tourism Industry Association and the RSPB, with additional funding from Comhairle nan Eilean Siar (the local Council) and Highlands & Islands Enterprise.

Blue carbon – our planet's thermostat

It is well known that our peatlands store large amounts of carbon. However, less publicised are our vast 'blue carbon' stores. Blue carbon is locked into our seas and, as John Baxter writes, Scotland's seas can contribute significantly to mitigating our greenhouse gas emissions.

1
Kelp forests not only provide habitat for an array of species but also sequester a large amount of carbon.

2
Deep-water coral reefs are extremely vulnerable to damage from mobile fishing gear but also one of the first habitats likely to suffer the effects of ocean acidification.

www.snh.gov.uk



Here's a staggering figure. Overall, Scotland's blue carbon storage capacity is estimated at 12.1 million tonnes of carbon (tC) per year, equivalent to around 20% of Scotland's total carbon emissions in 2011.

The carbon cycle is the process by which billions of tonnes of carbon are exchanged between living organisms, the land and water and the atmosphere every year. Until recently (i.e. the last 200 years) this cycle has been in relative equilibrium.

Awareness of the carbon cycle has become all too real in recent years, with the increased concerns about climate change and the effects of greenhouse gases.

Atmospheric carbon dioxide plays a key role in regulating the temperature of the planet, and the ocean has been vital in trapping and storing large amounts of atmospheric carbon dioxide. Since the start of the Industrial Revolution and the increase in the burning of fossil fuels (that contain huge quantities of trapped carbon) the concentration of carbon dioxide in the atmosphere has been rising, leading to what we recognise today as global warming.

The world's carbon sinks

What is even more alarming is that the rate of this warming process would have been even greater if the ocean had not absorbed much of this additional carbon dioxide from the atmosphere.

The importance of natural carbon sinks (anything that absorbs and stores more carbon than it releases) are increasingly being recognised, until recently especially terrestrial sinks such as forests, mangroves and peat bogs. In total it is estimated that around 500 gigatonnes (i.e. 500,000,000,000) of carbon are trapped in plant material and around 1500 gigatonnes in the soil.

These are very large numbers but are placed into relative insignificance when compared to the estimated 36,000 gigatonnes of carbon in the ocean – the so-called Blue Carbon. Much of this carbon is in the form of bicarbonate ions and the remainder as carbonate which when combined with calcium forms calcium carbonate, the main component of the shells and exoskeletons of many marine organisms.

Scotland’s marine biodiversity – not just a pretty place

The diversity of marine life in the waters around Scotland is only now being fully revealed, ranging from the dense kelp forests, seagrass beds and maerl beds to the horse mussel and flame shell beds and cold-water coral reefs. The nature conservation importance of these and other features has recently been acknowledged with the designation of a network of nature conservation Marine Protected Areas around Scotland. Their real value, however, is not just calculated in terms of the diverse and spectacular marine life that they support, but also the contribution they make as blue carbon sinks.

The kelp forests found around our rocky coasts not only provide a habitat for a dazzling array of animals and plants but also represent a standing stock of around 200,000-400,000 tonnes of carbon with an annual production of 1.7 million tonnes of carbon, much of which is recycled through animal grazing and bacterial action.

The maerl beds that are found in the shallow tide-swept areas of the west coast and the Northern Isles are another potentially very important carbon store. Maerl is a free-living calcareous red alga. The maerl beds around Scotland are estimated to cover over 7km² but this could be a significant underestimate as much more survey work is required to fully map our seabed habitats.

Maerl beds have a pink veneer of live alga but beneath this there may be up to 2 metres deep dead maerl in which

Many of our important blue carbon storage habitats are very fragile and vulnerable to damage or destruction.

it is estimated there could be as much as 440,000 tonnes of carbon locked up.

- Also, amazingly:
- Cold-water coral reefs off Mingulay are estimated to contain at least 112,000 tC.
 - The cold-water coral reefs of the Darwin Mounds off the north-west of Scotland are likely to contain 135,000 tC.
 - Horse mussel beds contain a minimum of 15,400 tC.
 - Brittlestar beds that cover extensive areas of the sea bed around Scotland are as yet an unquantified but potentially substantial carbon store.
 - Serpulid reefs, seagrass beds and flame shell beds all contribute in a relatively small way to the total.

The extensive deep-water sediment areas around Scotland hold an estimated 1.739 billion tonnes of inorganic carbon in the top 10cm of the sea bed and a standing stock of of 18.1 million tonnes of organic carbon with a sequestration capacity of 7.2 million tonnes of carbon per year.

Overall Scotland's blue carbon annual storage capacity is estimated at equivalent to around 20% of Scotland's total carbon emissions in 2011.

Many of these important blue carbon storage habitats are very fragile and vulnerable to damage or destruction that would not only result in the loss of their carbon sequestration capacity (i.e. capture and long-term storage) but also the potential remobilisation of the carbon stores that would then be released back into the atmosphere thus compounding the greenhouse gas problem.

As well as the dangers of physical damage and destruction, the growing threat of ocean acidification, the result of increased amounts of atmospheric carbon dioxide dissolving in the ocean, is a serious longer-term concern as this could result in the dissolution of the carbonate skeletons of many shell-forming organisms. Thus the management decisions that are taken in the future to protect and enhance our rich marine natural heritage will be crucial in also helping to protect this key ecosystem service.

For more detailed information please read SNH Commissioned Report 761, *Assessment of carbon budgets and potential blue carbon stores in Scotland's coastal and marine environment*. <http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=2176>



3
The true amount of carbon stored in Scottish maerl beds is unknown but, based on best estimates, it could be substantial.



¹
A mist net set up within
woodland at Threave.

Whiskers galore

A survey of bats and their habitats has been taking place at The National Trust for Scotland's Threave Estate in Dumfries and Galloway. Rachel Horsburgh, from the SNH licensing team, was one of the volunteers and she describes what monitoring bats entails.

One of the National Trust for Scotland's top ten most visited attractions, Threave Estate is a Scottish bat hotspot. These often misunderstood animals are it seems feared and admired in equal measure. A radio-tracking project is helping to give an insight into their behaviour and shed light on their secretive world.

I am encased in high-vis vest and waterproofs, it's 3.19 a.m., raining and pitch dark. Bracing myself against the wind in a lay-by off the A75, I am holding on to a two-metre metal pole with a large aerial on the top of it. I am slowly turning it from left to right through a range of 180 degrees. Strapped over my shoulder and resting on my hip is a telemetry receiver protected in a black leather case. I fiddle with the dials and watch the thin red needle for any sign of movement. Then, out of the static I hear it, like a tiny lost chick, a 'cheep, cheep, cheep', the volume intensifying as I home in on the source.

I'm picking up 'Asia', a whiskered bat with a tiny radio transmitter and antenna attached to her back, flying in a patch of woodland south-west of Castle Douglas, near Dumfries. We know she left her roost at Threave House at dusk, and she has been hunting here since, snacking on an insect mix of midges, flies and moths. Heather is standing behind me holding up a compass and taking a bearing from the receiver. Stuart is in the car with the walkie-talkie. I hear the crackle and hiss as our sister team, mirroring us to the north-west, come on to exchange their readings.

Tic Tac sized transmitter

I am taking part in a joint project between the National Trust for Scotland and Echoes Ecology, radio-tracking *Myotis* bats. Lindsay Mackinlay, a Nature Conservation Adviser for the National Trust for Scotland holds a research licence for the capture of *Myotis* bats on the Threave Estate. Three days earlier Neil Middleton, the Director of Echoes Ecology, along with his team of bat ecologists, had carefully placed a series of special bat nets and traps within the woodland, and caught a female Natterer's bat, 'Vienna' and a female whiskered bat, 'Asia'. The health and safety of the bats is paramount during the research. Special nylon gloves are worn when handling them in order to take vital statistics



2

such as weight and forearm length. A patch of fur just a few millimetres in length is shaved and a tiny radio transmitter not much bigger than a Tic-Tac is attached with a dab of surgical glue.

Neil says that it was the mystery of bats that drew him into their world: “As humans we are really up against it studying bats, looking for something we cannot see, and listening for something we cannot hear.” Relying on the habitual nature of bats, which will repeatedly seek out the same favourable places to hunt and mate, to sleep, and to care for their young, bat ecologists have developed a raft of ingenious electronic devices to keep track of bats in the dark, and to discover how and where they live out their lives. If picked up on a bat recorder, and visualised digitally on a sonogram, Asia’s and Vienna’s echolocation peaks would sit side-by-side: pairs of thick-set, charcoal-like streaks marking the kHz frequency of their calls.

“As humans we are really up against it studying bats, looking for something we cannot see, and listening for something we cannot hear.”

Asia is the smallest of our *Myotis* bats. Top-to-tail, whiskered bats are just about the size of an adult human thumb. Vienna is bigger and has a distinctive Natterer’s bristly edge to her tail membrane. Asia is a shaggier bat, her face fur is dark, and she has a distinctive bronzy ruff around her neck. Vienna has a spike of cartilage called ‘tragus’ poking up out of her ear, which is longer and more pointed than that of her whiskered cousin.

Protecting roosts

This research project, radio-tracking *Myotis* bats at Threave, has been running since 2012 and finishes next year. National Trust for Scotland volunteers and staff, along with Echoes Ecology staff, brave the night-shift. They are dedicated people, in constant communication, working in tandem across the land. Using selected vantage points, they track and map the wanderings of tagged bats across the estate and beyond, sometimes for up to a fortnight, building a detailed picture of where the bats choose to feed and sleep, until the little dab of surgical glue has perished and the radio-transmitter dropped off.

Neil Middleton explains: “Nobody else has done any radio-tracking with small *Myotis* (whiskered) bats this far north and this far west in Europe. They are pretty much on the edge of their distribution here.” As well as Natterer’s, Daubenton’s bats have also been caught and tagged in this project. “Anything we find will help to verify what is thought to be known about these *Myotis* species, and give bat conservationists more confidence.”

Confidence, for example, in where to protect their roosts and how to enhance their foraging opportunities. “Radio-tracking is not the easiest to set up at times”, comments Lindsay, who co-ordinates the research parties, “but the quality of information we retrieve from it is superb. Initially, we just knew of the whiskered bat maternity roost at Threave House. Now we know that they move over to the Countryside Centre later in the year.” A Natterer’s tree-roost, narrowed down to a slim but knobbly oak in the middle of a field of cows on the east of the Estate, is a first for Threave.

Lindsay summarises how this information will be fed into the Threave Estate Bat Management Plan, one of the first plans of its kind in Scotland. “The Plan is used as a tool to help us direct all our management. That is, from the shop and retail level straight down to making sure that lines of trees are maintained for bat movement. It goes right across the board. We commissioned Echoes Ecology to do the Plan and it’s our tool for deciding everything from land management and bat building inspections to education and training and the next best research opportunities. It is very comprehensive.”

2
National Trust for Scotland and Echoes Ecology staff radio-tracking at dusk.

3
A whiskered bat, held in nylon gloved hand, ready to be radio-tagged.

3



Whiskered bat facts

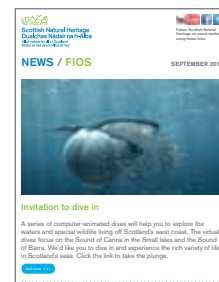
- Whiskered bats like to fly along a regular route; over or alongside hedgerows or following a woodland edge.
- They have a fast and fluttering flight. Gliding briefly when hunting in the tree canopy, they can pick off insect prey from branches and leaves.
- Night after night, between August and October, whiskered bats congregate in disused mines and caves to fly.

Keep in touch

We hope you enjoyed this issue of our FREE magazine. We are moving to ways of letting you keep in touch with our work that are kinder to our environment, and with this in mind our subscription list is now closed.

There are a variety of ways to receive news and information from Scottish Natural Heritage:

- Our magazine is available on our website both as a pdf and an audio version at www.snh.gov.uk
- Join the conversation about our natural heritage on Facebook
<https://www.facebook.com/ScottishNaturalHeritage>
- Keep up with our news on Twitter @SNH_Tweets
- Enjoy our videos at YouTube www.youtube.com/user/ScotNaturalHeritage1
- Follow our Scotland's Nature blog at <http://scotlandsnature.wordpress.com/>
- Subscribe to our monthly e-news and view the latest edition at <http://www.snh.gov.uk/contact-us/online-enquiries-service/>



If you are on our mailing list to receive a printed copy of *The Nature of Scotland* and your address has changed, then please spend a moment filling in the form on the reverse of your address sheet. You just need to pop the form in an envelope and post – no stamp required.